GENERAL MAINTENANCE

EXPERT 2000™

Release date: March 2007 Part #47756 rev. 1

FOREWORD

Here is the new Labrie™ Parts and Service manual for the standard version of the Expert 2000™ side-loading unit. We sincerely hope that you will find it easy to use.

We have designed it in a way that will allow you to easily make it available to drivers, mechanics, and parts department personnel.

Should you experience any problem with a Labrie™ unit, please contact your distributor first. He should be able to provide you with the proper support (parts or technical advice).

FIRST THINGS FIRST:

DO NOT FORGET TO COMPLETE THE OWNER REGISTRATION FORM AND TO SEND IT TO LABRIE ENVIRONMENTAL GROUP, MAKING SURE TO INDICATE THE "IN SERVICE" DATE. THIS DATE WILL BE USED TO START THE WARRANTY PERIOD. OTHERWISE, THE DATE OF DELIVERY FROM THE FACTORY WILL BE USED.

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1.0 GENERAL MAINTENANCE

DANGER, WARNING, CAUTION notations appear throughout this manual and on labels on and inside of the vehicle.

DANGER

The word **DANGER** precedes information which indicates an imminently hazardous situation, which if not avoided, **WILL** result in death or serious injury of the user or others.

WARNING

The word **WARNING** precedes information which indicates a potentially hazardous situation, which if not avoided, **COULD** result in personal injury or death of the user or others.

CAUTION

The word **CAUTION** precedes information which indicates a potentially hazardous situation or unsafe practice, which if not avoided, **MAY** result in minor to moderate injury to user or damage to the equipment.

The word **NOTE** also appears in this manual and precedes information which is vital to the proper operation and maintenance of the vehicle equipment.

In spite of our efforts to build a vehicle that is as safe as possible, the operator's safety certainly depends on the precautionary measures taken while operating the vehicle. If in doubt, question your supervisor. Supervisors or Maintenance Department personnel with questions should contact LabriePlus.

For maintenance of the chassis itself, refer to the chassis manufacturer's service manual. Only body and packer components are outlined in this manual.

Establish and apply a periodic inspection program to keep moving parts in good working order, properly adjusted and safe. It is recommended that a brief inspection be done by the operator **EVERY DAY** and any detected malfunctions must be reported for correction **BEFORE** using the equipment.

Once a month, inspect the chassis and the body for breaks, cracks or any potential problems. Any defects found must be repaired without delay. To ensure the good working order of the equipment, a particular attention should be paid to structural components in order to prevent deterioration due to corrosion; touch-ups and/or complete paint jobs should be done when necessary.

labrieplus

LabriePlus

Parts, Service and Warranty
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(24 hours)

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1.1 GENERAL PRECAUTIONS

It is the employer's responsibility to make sure their employees are qualified and capable of operating this equipment.

THE FOLLOWING IS GENERAL SAFETY AND OPERATIONAL PRECAUTIONS WHICH SHOULD BE ADHERED TO BY OPERATORS (AND/OR MAINTENANCE PERSONNEL) AT ALL TIMES.

- Do not operate this vehicle before having read and completely understood this manual and the safety labels on the vehicle. Maintenance personnel must also read and understand the Maintenance Manual for this vehicle (and the maintenance related information in this manual). In case of any doubt, see your supervisor for clarification.

- Labrie Expert 2000™ units equipped with a Cool Hand™ or Helping Hand™ lifting arm are primarily designed to be operated by only one person.

- The operator of the Cool Hand™ or Helping Hand™ must be in full and clear view of the operation of the lifting arm at all times. The operator must be able to stop the motion of the arm at any time, in order to prevent injury to surrounding people, damage to property or to the lifting arm itself.

- The operator of the Cool Hand™ or Helping Hand™ lifting arms shall make sure that any people or obstructions are far away from the automated arm before moving it. **Failure to do so may result in unit and / or property damages, personal injury or even death.**
If, however, Labrie's customer elects to operate the unit with more than one worker, the following safety items shall be installed to protect the co-worker from hazardous situations.

  (For example, an additional set of sustained manual pressure controls for each additional worker shall be provided. The actuation of the controls shall take place concurrently in order to operate the Cool Hand™ or Helping Hand™ lifting arm. The sustained manual pressure control shall be located so that the co-worker pressing it is not in the path of the arm and has a clear and full view of the point of operation.

  In such case, **Labrie Environmental Group must be informed** of every and all units with a Cool Hand™ or Helping Hand™ operated by more than one worker. Labrie Environmental Group will then determine and supply, at the customer's expense, the required safety items.

  For additional information, please contact LabriePlus.

  Failure to do so may result in unit and/or property damages and/or personal injury or death.

- At the beginning of every working day, inspect the body, the packing system and any system that might endanger the safety of the public and/or the operator.

- Make sure the mirrors, brakes, acceleration pedal, steering wheel and turn signals are in good working order.
- Do not operate this equipment if there are any signs of damage or incomplete repairs.
- Report any doubts and any equipment safety service requirements to your supervisor.
- Maximum speed, if permitted, while right-hand side driving is 20 Mph (32 kph).
- Keep both hands on the steering wheel at all times for better control.
- Do not leave the driving position until the vehicle is completely stopped and the parking brake is applied.
- When the vehicle is parked, the parking brake must be applied.
- For any work, cleaning or inspecting being done between the body and the chassis, the body safety prop MUST be used. The vehicle must also be on level ground.
- Watch and be absolutely sure that there nobbody stands behind the vehicle when opening and closing the tailgate(s) and/or when raising the body.

DANGER

DO NOT GET INTO THE HOPPER COMPARTMENT OR TRY TO REPAIR ANYTHING BEHIND THE PACKER WHEN IT IS WORKING OR WHEN THE HYDRAULIC PUMP IS STILL RUNNING. PERSONNEL AUTHORIZED TO GET INTO THE HOPPER MUST FIRST COMPLETE THE LOCKOUT/ TAGOUT PROCEDURES REQUIRED BY THE EMPLOYER.

WARNING

WHILE COLLECTING GARBAGE, WATCH FOR EXPLOSIVE OBJECTS, SUCH AS TELEVISION TUBES, FLUORESCENT TUBES, CANS UNDER PRESSURE, ETC. THE OPERATOR MUST WEAR SAFETY EQUIPMENT, SUCH AS SAFETY GLASSES, GLOVES AND PROTECTIVE FOOTWEAR, AT ALL TIMES.

1.2 GENERAL RESPONSIBILITIES OF THE EMPLOYER

(Ref. ANSI Z 245.1 1999 Standards)

It is also the employer's responsibility to properly maintain all mobile equipment to meet provincial/state and federal safety standards. The employer also has the following responsibilities:

- Supply adequate instructions and training for the safe use of the vehicle before assigning the employee to such equipment.

- The employer must keep the vehicle maintained and properly adjusted to meet the manufacturer's standards and recommendations. If in doubt, contact the manufacturer or any authorized representative.

- The employer must keep a record of any breakdowns or malfunctions of the vehicle, and also keep records of inspection and maintenance.

- Any breaks or malfunctions that can affect the safe usage of the vehicle must be repaired before the vehicle is to be used again.

- Meet the appropriate lighting requirements for working at night (if permitted).

- Regularly accompany the operator of the vehicle and take measures to ensure the smooth and safe operation of the vehicle. Respect all safety measures.

- Make sure that the backup alarm works properly while vehicle is in reverse, while body is rising or while the tailgate is opening.

1.3 GENERAL RESPONSIBILITIES OF THE EMPLOYEE

(Ref. ANSI Z 245.1 1999 Standards)

- The employee must enforce all of the safety requirements for mobile equipment supplied by the employer.
- Equipment is to be operated only after having received instructions and training in accordance to chapter 3.0.
- The employee has the responsibility to report any damages or malfunctions of the vehicle to his employer or his supervisor without any delay. The employer will then take the necessary measures prior to the re-operation of the vehicle to ensure its safe operation.
- The employee must make sure that there is nobody near the vehicle before activating any of the controls and must be prepared to stop anything in case of danger.

WARNING

BEFORE PERFORMING ANY MAINTENANCE ON THE VEHICLE, ALL SAFETY REGULATIONS MENTIONED IN THE OPERATORS MANUAL, SECTION 2.0, MUST BE RESPECTED, ESPECIALLY THE "LOCKOUT/TAGOUT" PROCEDURE (ANSI Z 245.1 1999).

CAUTION

MAINTENANCE AND REPAIRS CARRIED OUT ON THIS VEHICLE MUST ONLY BE PERFORMED BY QUALIFIED PERSONNEL WHO IS FAMILIAR WITH THE EQUIPMENT. LABRIE ENVIRONMENTA; GROUP DECLINES ANY RESPONSIBILITY FOR FAILURES RESULTING FROM UNPROPER REPAIRS PERFORMED BY THE END USER.

CAUTION

MAINTENANCE PERSONNEL SHALL NOT PERFORM ANY MAINTENANCE ON THE EQUIPMENT IF THEY ARE NOT WELL ACQUAINTED WITH THE OPERATIONS OF THE EQUIPMENT AS WELL AS ALL SAFETY PRECAUTIONS OF SUCH OPERATIONS. REFER TO THE OPERATORS MANUAL BEFORE ATTEMPTING TO PERFORM ANY TYPE OF WORK ON THE UNIT.

1.4 FIRE HAZARD

If, for any reason, the maintenance personnel has to work on equipment that has not been unloaded, for any type of work, a fire extinguisher (Figure #1.1) should be made readily available and close to this vehicle. Anytime a loaded vehicle is inside a garage, there shall be a fire extinguisher very close nearby.

The employer must inform and train all personnel about the measures to be taken in case of a truck and/or a loaded body catching on fire. The employer must also inform its employees of an appropriate place to drop the load near the maintenance facility (Preferably away from traffic, surface drains and ditches).

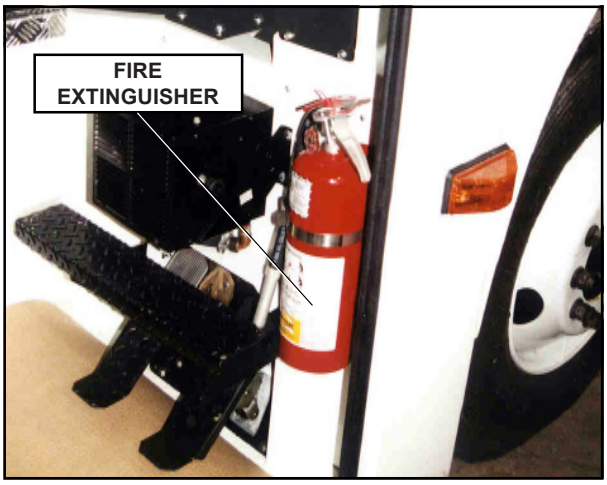


FIGURE #1.1

DANGER

DO NOT PERFORM ANY REPAIR OR MAINTENANCE ON A VEHICLE THAT HAS NOT BEEN UNLOADED.

1.5 LOCKOUT/TAGOUT PROCEDURE

It is the employer's responsibility to establish and apply a lockout/tagout procedure for any inspection, repairs or maintenance being done on the vehicle, whether it is on the road or at the shop. Before the lockout/tagout procedure is applied, the body **must be unloaded.**

DANGER

DO NOT PERFORM ANY REPAIR OR MAINTENANCE ON A VEHICLE THAT HAS NOT BEEN UNLOADED.

FIGURE #1.2

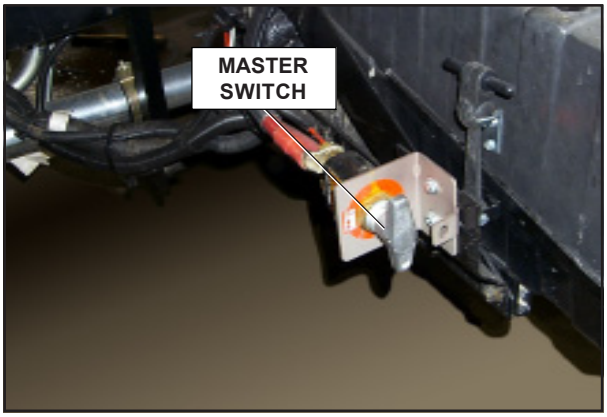


FIGURE #1.3

SUGGESTED LOCKOUT/TAGOUT PROCEDURE

1. Apply the parking brake (Figure #1.2);
2. Turn off the pump switch on the console (PTO switch);
3. Shut off the engine;
4. Remove the key from the ignition switch;
5. Put the key in a safe controlled area;
6. Put adhesive tape on the ignition switch keyhole;
7. If installed, turn off the master switch (Figure #1.3);
8. Put an "Off Service" tag on all steering wheels;
9. Put an "Off service" sign in the windshield;
10. Block any system that could move by gravity with a proper and visible safety prop (open tailgate, raised body, etc.);
11. Move (back and forth) all control handles to release any residual pressure in the hydraulic and pneumatic systems;
12. Chock wheels on both sides to prevent movement of vehicle;
13. Disconnect the following items if any type of welding is required:
    - Battery*
    - ABS (antilock brake system) module*
    - Electronic transmission (ECU)*
    - Electronic engine module (ECM)*
    - Intermittent wiper module*

* Refer to the chassis manufacturer service manual to locate electronic components.

1.6 BODY SAFETY PROP

BODY SAFETY PROP INSTALLATION PROCEDURE

1. Lift the body until the safety prop is clear to be tilted under the body;
2. Pull the handle to release the safety prop, then pull down the safety prop;
3. Slowly lower the body so it rests properly on the prop (Figure #1.4 et #1.5);
4. Once finished with repairs or inspection, slightly raise the body and bring back the safety prop to its vertical position then lower the body.

DANGER

DO NOT USE PROPS WITH A LOADED BODY. NEVER STAND UNDER A RAISED AND LOADED BODY.

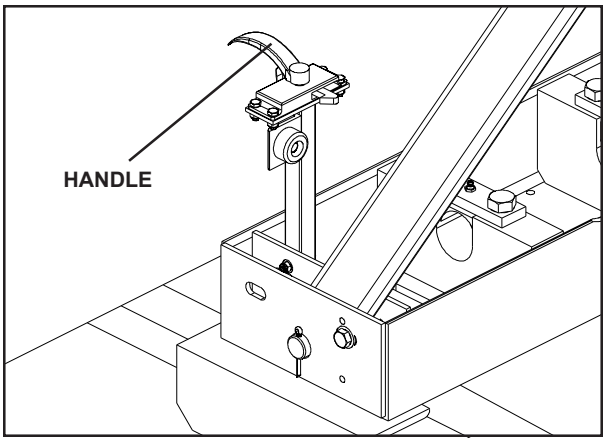


FIGURE #1.4

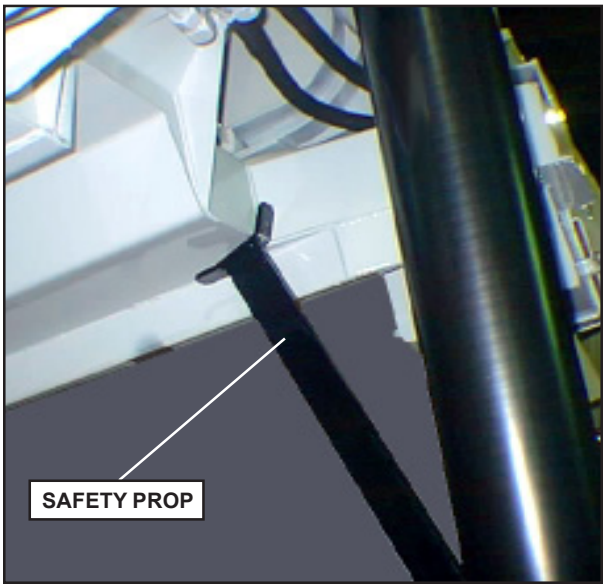


FIGURE #1.5

1.7 TAILGATE SAFETY PROP

The tailgate safety prop is used to support and keep the tailgate opened during inspection or when maintenance is carried out on the vehicle. It is mandatory to install the safety prop each time the tailgate is opened for such purpose. For maintenance on comingle split body units equipped with an inside door; refer to the comingle section of the Parts and Service manual.

The safety prop can be easily installed when the tailgate is slightly opened. Apply the following procedure to install the safety prop.

TAILGATE SAFETY PROP INSTALLATION PROCEDURE

1. Make sure there is no garbage inside the body;
2. Remove the tailgate safety pins(2);
3. Start the engine;
4. Turn the PTO switch ON, open the tailgate and raise it about 3 feet high;
5. Remove the safety prop lock pin and raise the prop in a position where both locking holes are aligned together (Figure #1.6);
6. Insert the lock pin to maintain the safety prop in place;
7. Lower the tailgate so it rests on the safety prop.

FIGURE #1.6

DANGER

ALWAYS USE THE TAILGATE SAFETY PROP WHEN WORKING UNDER A RAISED TAILGATE. THE SAFETY PROP MUST BE INSTALLED EVEN IF THE TAILGATE IS IN THE FULLY RAISED POSITION.

DANGER

MAKE SURE NO ONE IS STANDING BEHIND THE TRUCK AND THERE IS NO WASTE MATERIAL IN THE BODY BEFORE INSTALLING THE TAILGATE SAFETY PROP.

1.8 SHUTDOWN PROCEDURE

If the vehicle has to be stored for an extended period, follow the chassis manufacturer shutdown requirements as well as the maintenance requirements, and perform the following procedure.

SHUTDOWN PROCEDURE

1. Park on a hard, stable and level surface;
2. Apply the parking brake;
3. Make sure that all moving parts are in the stored position (tailgate, body, crusher panel, packer, etc.);
4. Turn hydraulics, electrical and engine “OFF”;
5. Turn off the master switch;
6. Drain the air tanks (Figure #1.7).

AIR TANK

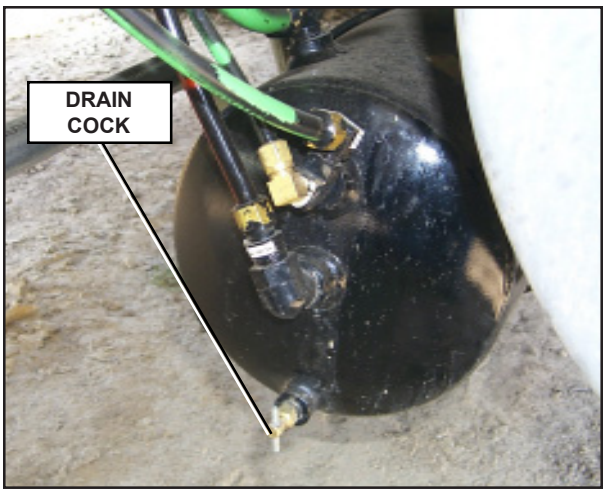


FIGURE #1.7

1.9 PRIOR TO START UP

Before starting the vehicle, ensure that no system will engage and start to operate as you are starting the engine. All electrical components should be turned OFF and the hydraulic pump disengaged (Figure #1.8). **The main valve on the hydraulic tank should be open (Figures#1.9 & #1.10, or #1.11 & #1.12).** Refer to section 3.2.1 “Engaging the Pump” in the Operators Manual.

FIGURE #1.8

WARNING

MAKE SURE THAT THE MAIN VALVE ON THE HYDRAULIC TANK IS FULLY OPEN BEFORE STARTING THE ENGINE (FIGURES #1.9 & #1.10, OR FIGURE #1.11 & #1.12). IF NOT OPEN, IMMEDIATE DAMAGE WILL OCCUR TO THE PUMP, EVEN IF THE PTO SWITCH IS TURNED OFF.

SADDLE-TYPE MAIN HYDRAULIC TANK

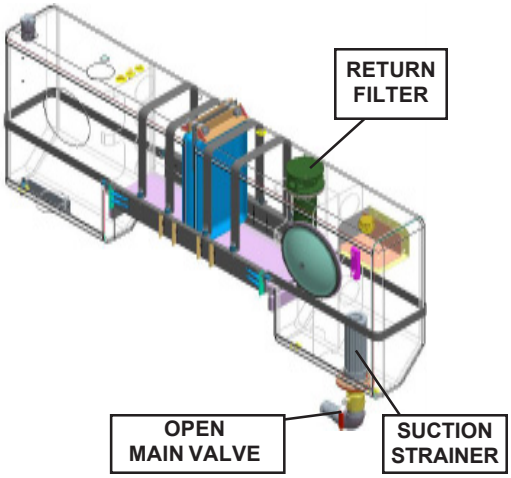


FIGURE #1.9

PRESSURIZED-TYPE MAIN HYDRAULIC TANK

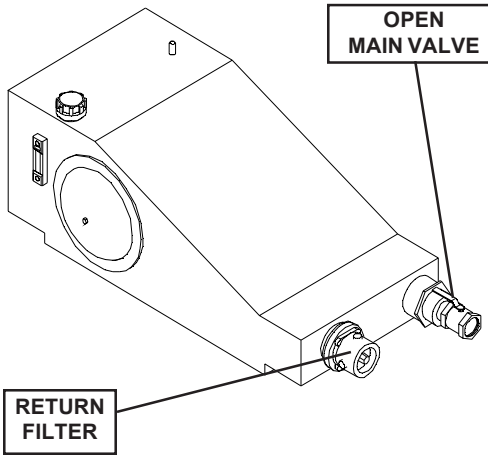


FIGURE #1.11

SUCTION-LINE-MOUNTED VALVE ON SADDLE-TYPE MAIN HYDRAULIC TANK

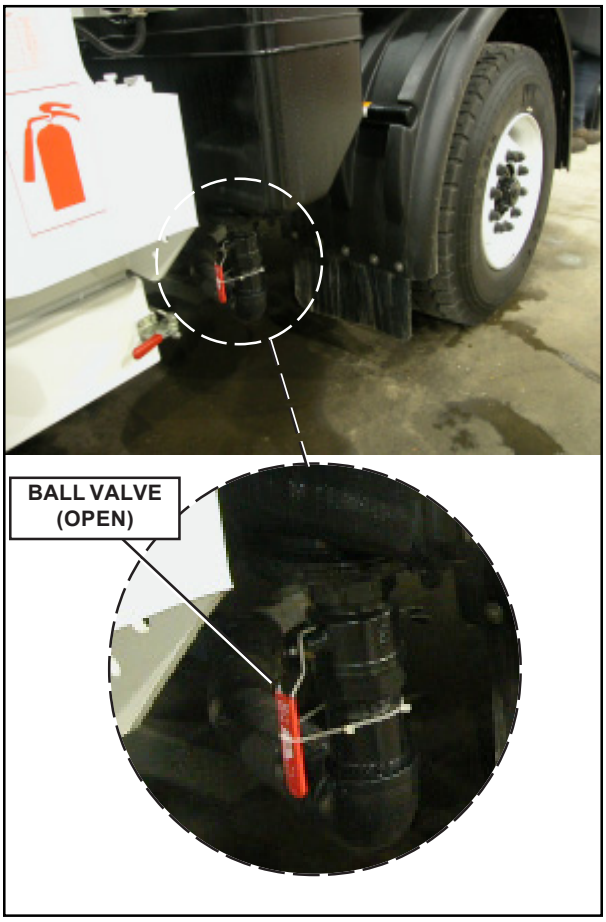


FIGURE #1.10

SUCTION-LINE-MOUNTED VALVE ON PRESSURIZED-TYPE MAIN HYDRAULIC TANK

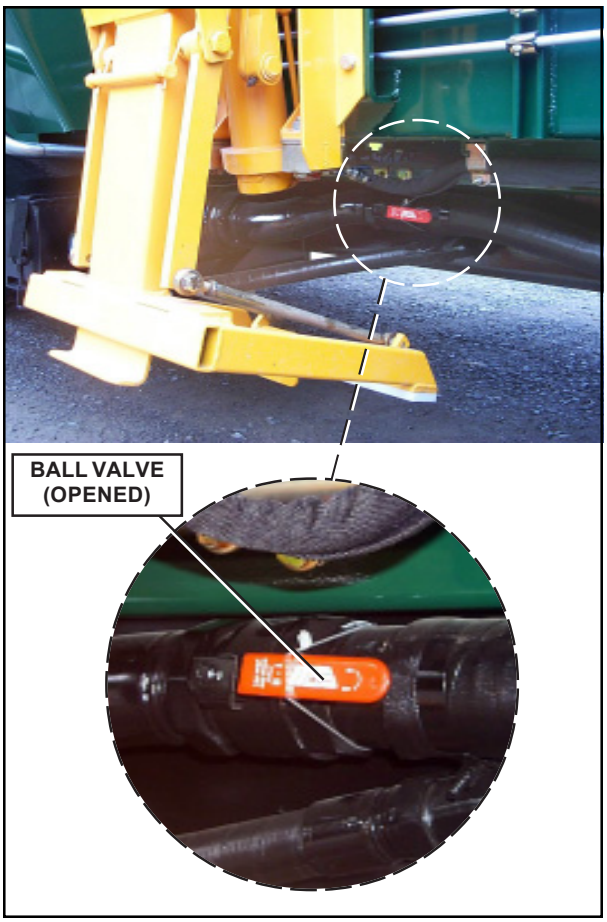


FIGURE #1.12

1.10 GENERAL CLEANLINESS

Cleanliness is part of the safety. Ensure the equipment to work properly by removing any stacked garbage in the hopper area. Clean all truck lights, warning lights and safety stickers, so you and the surrounding pedestrians and vehicles will be safe around the truck at all times.

Keep clean the contact surface between the body and chassis. Labrie Environmental Group recommends to clean the chassis at the dumpsite, after every unloading.

Make sure that the side step and/or the hopper step (if installed) are clean and free of any slippery material.

WARNING

KEEP THE RIGHT- AND LEFT-HAND SIDE CAB FLOORS DRY AND CLEAN TO PREVENT ANY RISK OF SLIPPING AND ACCIDENT.

DANGER

USE A STEPLADDER TO WORK ON HIGHER PARTS OF THE VEHICLE. REMEMBER THAT THE ROOF IS NOT MEANT TO BE WALKED ON. BE VERY CAUTIOUS IF YOU HAVE TO WORK ON THE ROOF AREA.

DANGER

ALWAYS USE SAFETY HARNESS WHEN WORKING OR WALKING ON THE ROOF OF THE VEHICLE.

1.11 CLEANING THE HOPPER AREA

The area behind the packer should be cleaned out every day. The packer will not work properly if waste accumulates in this area; it could even cause severe damage to the packer and other related parts.

This section details the cleaning procedure of the hopper section. Note that the procedure may vary depending on what type of chassis and options installed on the vehicle (i.e. crusher panel, comingled version, glass compartment, automated arm, etc.). For more details on these options, refer to related section of the Parts and Service Manual.

DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE TO PREVENT ANY ENGINE START-UP.

HOPPER CLEANING PROCEDURE

1. Park the vehicle in a proper place, where the vehicle can be cleaned out. Make sure to park the vehicle on a safe and level ground;
2. Ensure that the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 “Lockout/ Tagout procedure”);
3. Start the engine and engage the hydraulic system (PTO ON);
4. Then using the selector switch on the console, select the right-hand side packer control station (Figure #1.11). This switch is found only on vehicles equipped with multiple packer control stations;
5. Disable the speed-up system on the console (Figure #1.12) by pulling out the speed-up inhibitor switch;

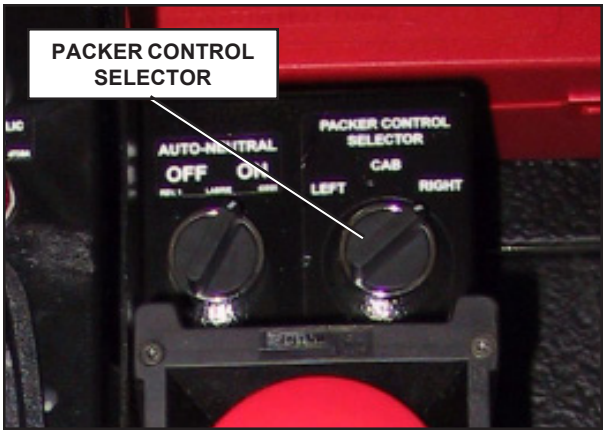


FIGURE #1.11

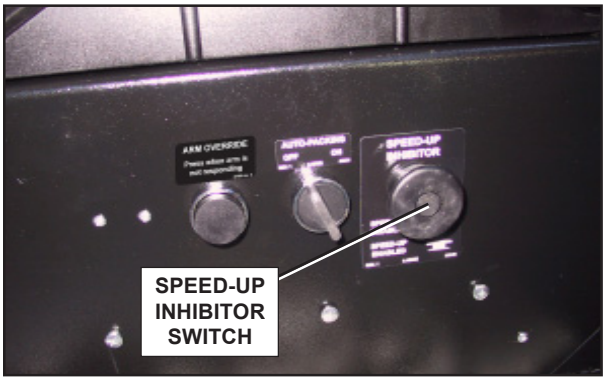


FIGURE #1.12

HOPPER CLEANING PROCEDURE (CONTINUES)

6. Exit the cab and open both hopper doors;
7. Raise the crusher panel (Figure #1.13) using the lever located on the main hydraulic valve (Figure #1.14);

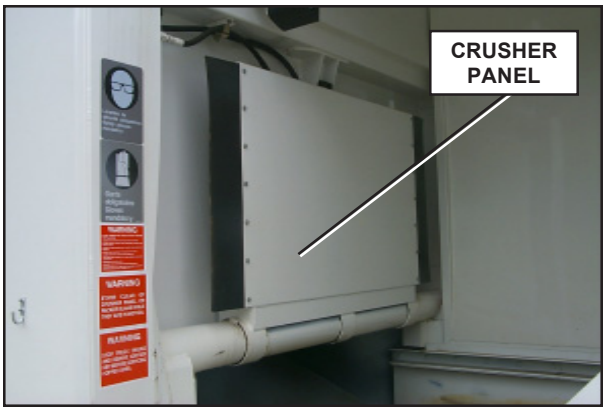


FIGURE #1.13

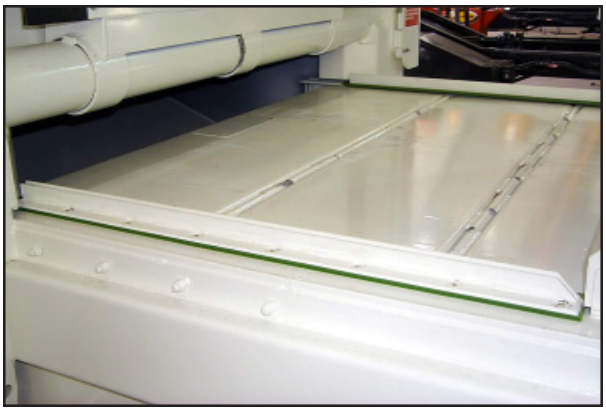


FIGURE #1.15

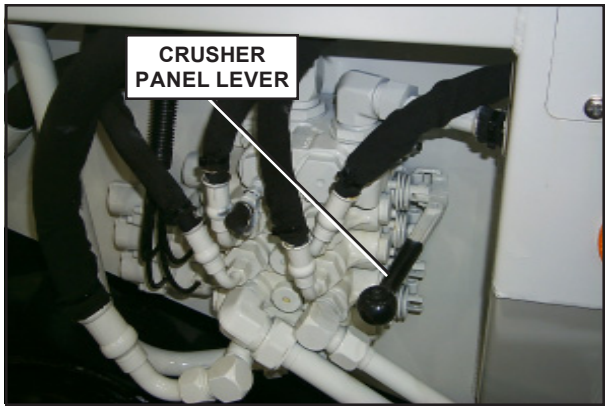


FIGURE #1.14

HOPPER CLEANING PROCEDURE (CONTINUES)

8. Fully extend the packer (Figure #1.15) then push the “red” button (Figure #1.16) to stop the packer in this position;
9. Turn off the hydraulic pump and the engine;

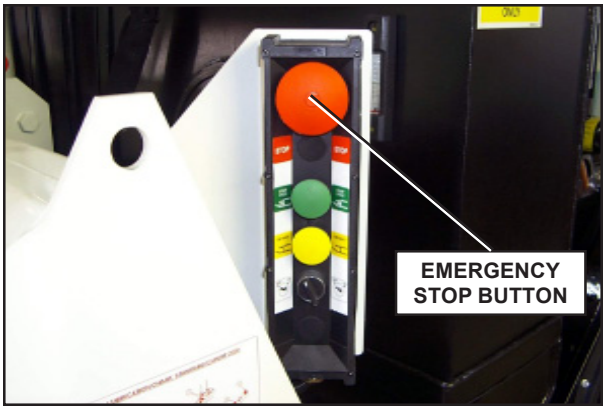


FIGURE #1.16

HOPPER CLEANING PROCEDURE (CONTINUES)

10. Apply the lockout/tagout procedure;
11. Open the clean out traps on each side of the hopper (Figure #1.17);
12. Climb inside the hopper using a small step-ladder;
13. Bring the floating panel to a vertical position and hold it, using the handle at the upper left corner of the panel (Figure #1.18);
14. Remove the safety pin from its holder and put the pin in the hole at the bottom left of the floating panel (Figure #1.18). This pin is a mandatory safety device, preventing from being caught at the pinch point, when manipulating the floating panel;

FIGURE #1.17

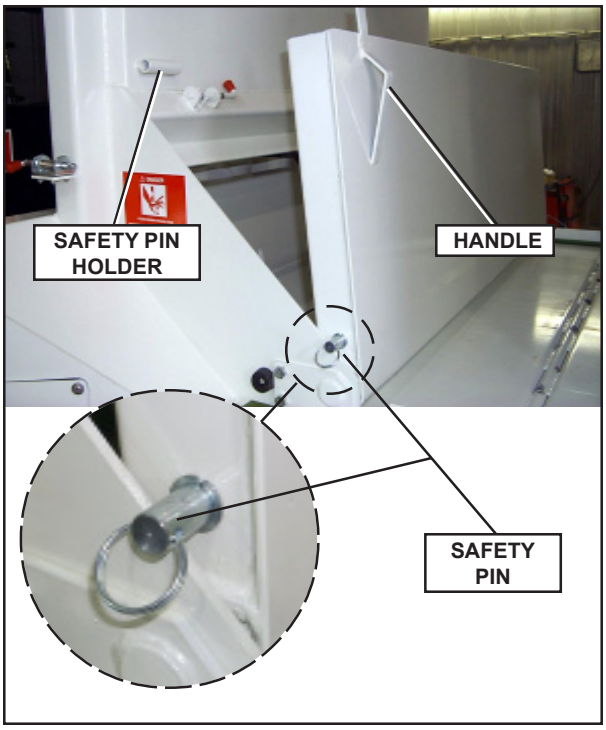


FIGURE #1.18

WARNING

INSTALL THE FLOATING PANEL SAFETY PIN TO PREVENT HANDS OR FINGERS FROM BEING CAUGHT AT THE PINCH POINT OF THE FLOATING PANEL.

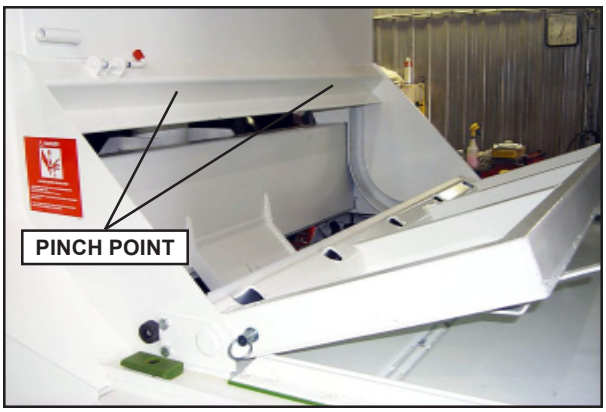


FIGURE #1.19

HOPPER CLEANING PROCEDURE (CONTINUES)

15. Lower the floating panel over the packer (Figure #1.19);
16. Remove all accumulated dirt under the cylinder brackets and side rails (Figure #1.20) using a scraper or pressurized water;
17. Rake small piece of garbage towards the clean out traps (Figure #1.21). Finish cleaning the area with pressurized water;
18. Perform a visual inspection of the following components, checking for proper working order and/or alignment:
    - Rollers,
    - Cylinders pins,
    - Hoses, pipes and connections,
    - Proper tightness of bolts;
    - Excessive wear of the floor and sidewalls of the hopper;
    - Cylinders and hoses for leaks.
19. After cleaning and inspecting, raise the floating panel until the safety pin is leaning against the side frame (Figure #1.18);

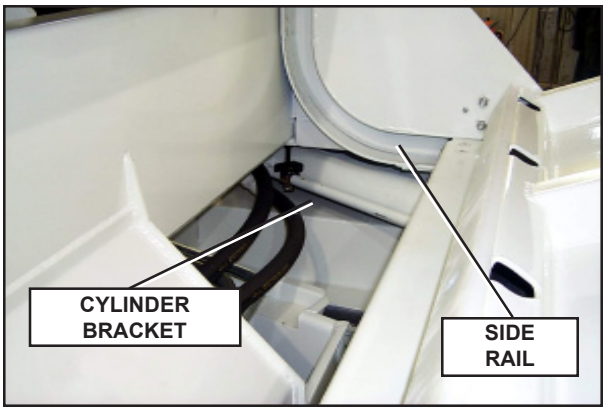


FIGURE #1.20

FIGURE #1.21

HOPPER CLEANING PROCEDURE (CONTINUES)

20. Hold the floating panel to a vertical position using the handle and remove the safety pin;
21. Push the floating panel towards the front of the vehicle, and secure the panel using the lock handle (Figure #1.22);
22. Exit the hopper, start the engine, engage the hydraulic system and fully retract the packer.

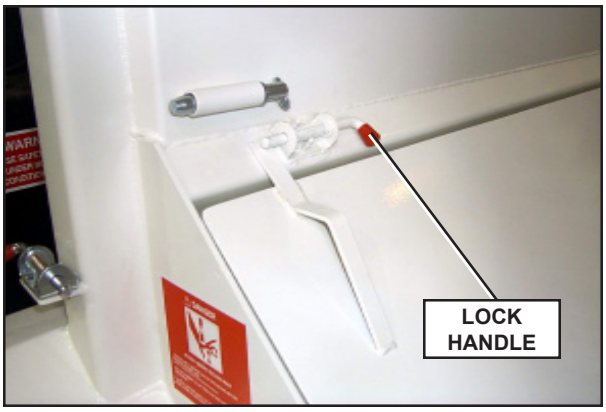


FIGURE #1.22

1.12 PACKER MAINTENANCE

1.12.1 GENERAL MAINTENANCE

The Expert 2000™ packing system has a heavy-duty guiding system using high strength steel wear plates. Because of the intensive use of the packer, (1000 to 3000 cycles per day), Labrie recommends that a visual inspection of the packer and its components to be performed daily by the operator. A weekly inspection and maintenance done by maintenance personnel is also mandatory.

Greasing all moving parts on a daily basis is very important and the proper adjustment of the limit switches is imperative, especially on units equipped with multi-cycle options. Refer to the "Lubrication" section for detailed diagrams of greasing points and lubrication schedule.

DO NOT GREASE THE SIDE RAILS: Abrasive material sticks to the grease and can cause premature wear of the rollers and/or the side rails.

DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

Any problems found on the packing system must be corrected immediately.

LabriePlus is available for any type of technical support. Apply the following step-by-step inspection procedure to prevent breakdowns and to reduce maintenance expenses.

PACKER INSPECTION PROCEDURE

1. Start the engine, engage the hydraulic system and disable the speed-up system;
2. Fully extend the packer and stop it using the emergency red button;
3. Make sure that the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to section 1.5 "Lockout/ Tagout procedure");
4. Check the follower panel hinges and see if there is no wear on the panel's surface (Figure #1.23);
5. Inspect the wear pad (nylon strip) at the bottom of the floating panel (Figure #1.23). This wear pad wipes out dirt each time the packer goes back and forth. Replace this wear pad before it is worn down to the top of its holding screw;

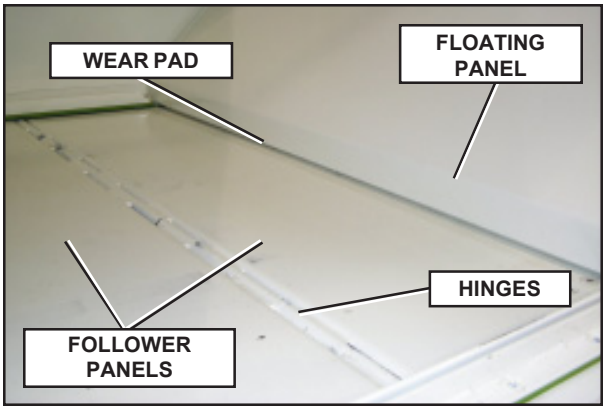


FIGURE #1.23

PACKER INSPECTION PROCEDURE (CONTINUES)

6. Visually inspect both hopper side rails and packer rollers (Figure #1.24 & #1.25) for premature wear. If necessary, refer to section 1.12.8 "Packer Roller Replacement" or section 1.12.5 "Wear pad replacement;
7. Make sure there are no leaks on hydraulic hoses and pipes. Tighten leaking connections and/ or replace the defective hose;
8. Cylinder rod ends must be clear of any dirt;

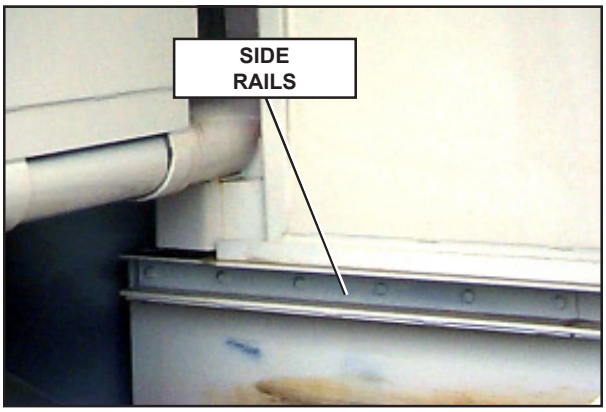


FIGURE #1.24

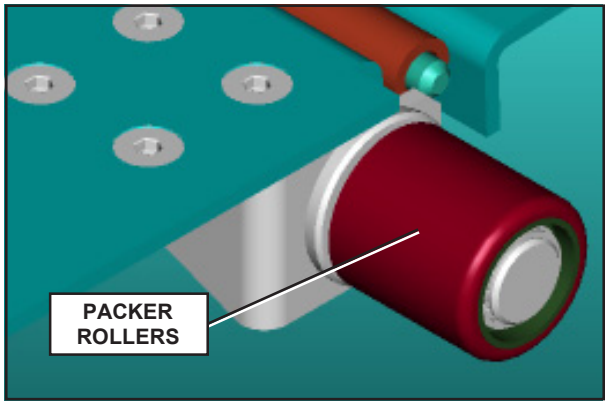


FIGURE #1.25

PACKER INSPECTION PROCEDURE (CONTINUES)

9. Verify cylinder rods for scratches that may cause the cylinder to leak oil. In this case, the cylinder and/or the seal must be replaced immediately. DURING THE WARRANTY PERIOD; DO NOT ATTEMPT TO CHANGE CYLINDER SEALS AND PACKING;
10. Check for vertical and horizontal movement of the packer. If the packer seems to play sideways or even up and down, the packer wear pads need to be replaced. Extensive wear of the hopper floor also suggests that the sliding shoes require immediate replacement. Refer to section 1.12.3, to 1.12.5;
11. See if there is no knocking noise when the packer reaches the end of cylinder's stroke. A knocking noise will indicate that both limit switches require adjustment. Refer to section 1.12.2 "Limit switch adjustment";
12. In order to verify if hydraulic cylinders are internally leaking, (insufficient packing force) refer to troubleshooting; section 3.19 "Internal Leak Detection".

1.12.2 LIMIT SWITCH ADJUSTMENT

The packer limit switches were properly adjusted at the factory for optimal operation of the packer. If a daily cleaning is not properly done behind the packer, it is possible that the limit switches no longer stop the packer, creating a knocking noise when the packer reaches the end of a stroke (bottoming out). The packer may also not retract far enough to touch the limit switch preventing the automatic cycle to work properly.

After a certain period of time, a misalignment of the components may occur due to the frequent back and forth movement of the packer. An adjustment might be necessary to prevent the cylinders from completely extending and retracting to the end of their strokes.

There are two limit switches that control the extension and the retraction limit of the packer (before the end of cylinder's stroke). Both limit switches are located at the front end of the body, between the cab and the body (Figure #1.26 & #1.27). The limit switch that stops the packer during extension (packer extend) is located on the left-hand side (Figure #1.26). The other limit switch, (packer retract) is located on the right-hand side of the vehicle (Figure #1.27).

DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

Optional proximity switches can also be installed on the vehicle but the adjustment procedure remains the same (Figure #1.28).

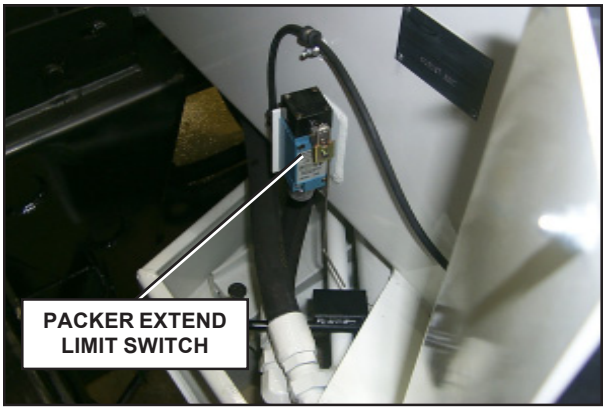


FIGURE #1.26

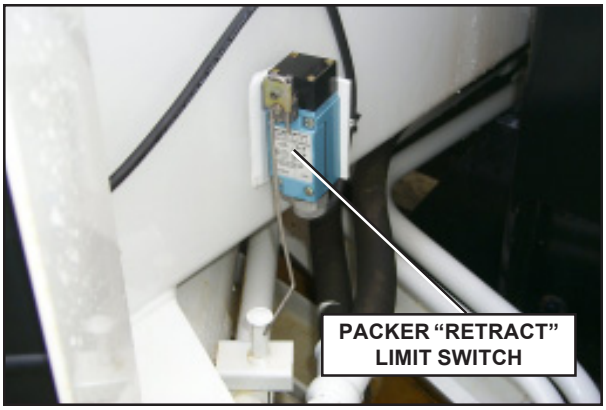


FIGURE #1.27

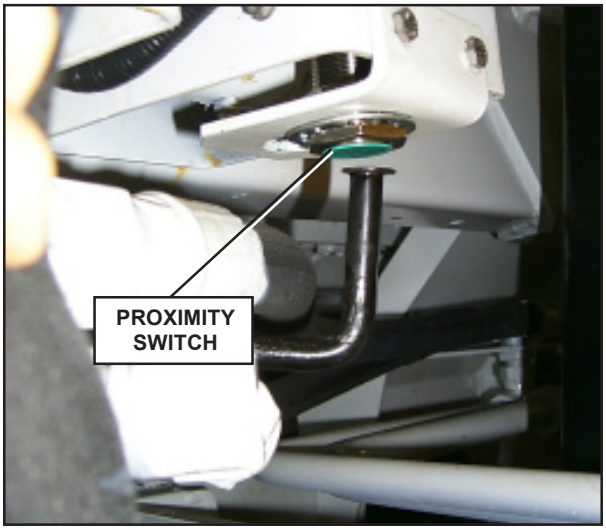


FIGURE #1.28

PACKER LIMIT SWITCH ADJUSTMENT PROCEDURE

1. Start the engine, engage the hydraulic pump and disable the speed-up system using the speed-up switch (Figure #1.29);
2. Using the selector switch on the console, select the right-hand side packer control station (Figure #1.30). This switch exists only on vehicles equipped with multiple packer control stations;
3. Press the green button on the right-hand side packer control station in order to extend the packer about 1 inch back from the fully extended position (Figure #1.31);

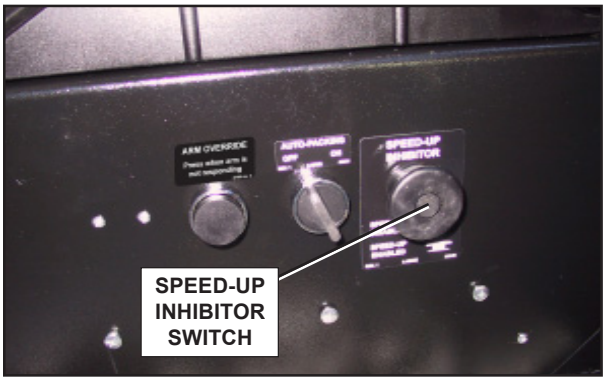


FIGURE #1.29

FIGURE #1.30

PACKER LIMIT SWITCH ADJUSTMENT PROCEDURE (CONTINUES)

4. Push the red button when the packer reaches the proper position to prevent accidental start up of the packer when adjusting the limit switch;
5. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 “Lockout/ Tagout procedure”);

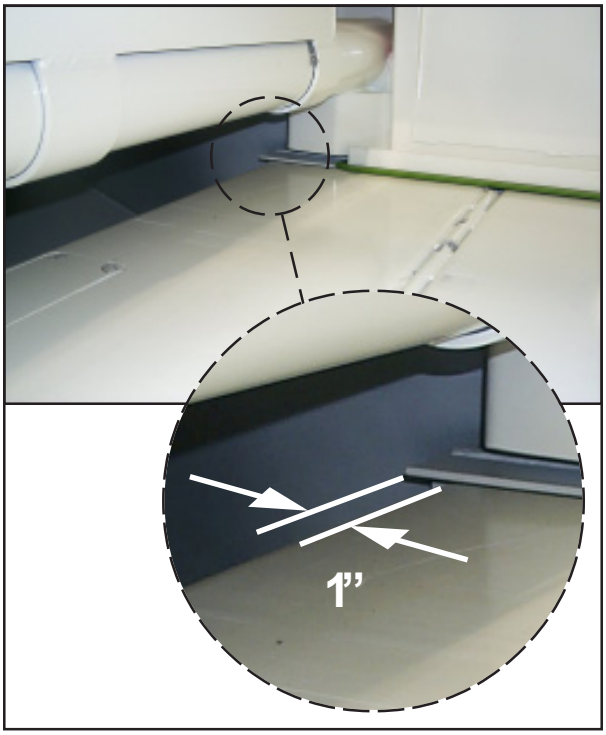


FIGURE #1.31

DANGER

DO NOT CLIMB INTO THE HOPPER WHILE THE PACKER IS MOVING.

PACKER LIMIT SWITCH ADJUSTMENT PROCEDURE (CONTINUES)

6. Locate the limit switch on the left-hand side of the vehicle (Figure #1.32);
7. Adjust the limit switch lever so it is "active" when the packer cylinder finger is in the position shown on figure #1.33 (Limit switch is "clicked"). The lever may require to be bent or twisted to properly activate the limit switch at this exact position;

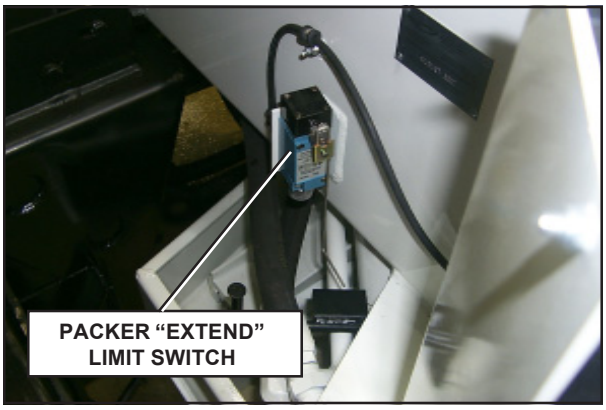


FIGURE #1.32

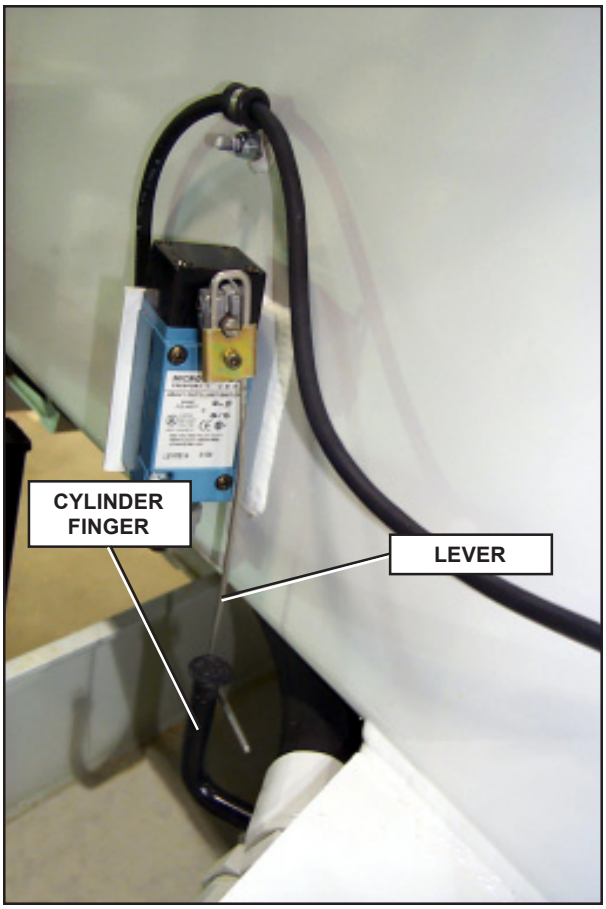


FIGURE #1.33

PROXIMITY SWITCH:
If the vehicle is equipped with proximity switches, loosen the proximity switch on the bracket and move the proximity switch over the trigger lever to get the yellow LED found on the proximity switch to turn "ON" (Figure #1.34). The gap between the proximity switch and the trigger lever must be adjusted to 3/16 of an inch.

NOTE: THE GREEN LED TURNS ON WHEN THE SWITCH IS POWERED; THE YELLOW LED TURNS ON WHEN THE SWITCH DETECTS METAL.

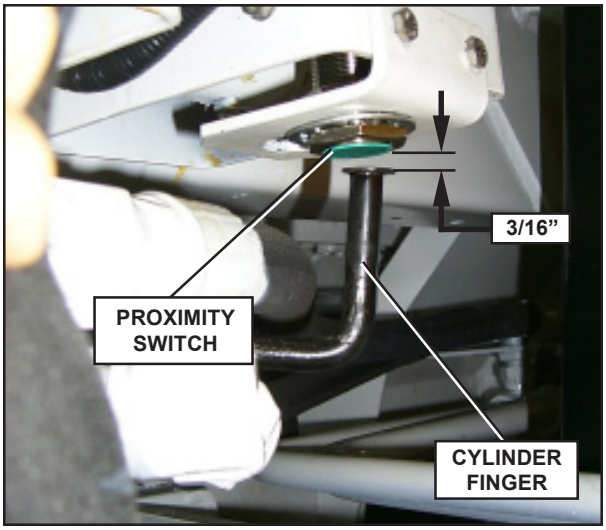


FIGURE #1.34

PACKER LIMIT SWITCH ADJUSTMENT PROCEDURE (CONTINUES)

8. To adjust the ”packer retract” limit switch, retract the packer to 1” before the fully retracted position (Figure #1.35), using the yellow button on the packer control station;
9. Push the red button when the packer reaches the right position;

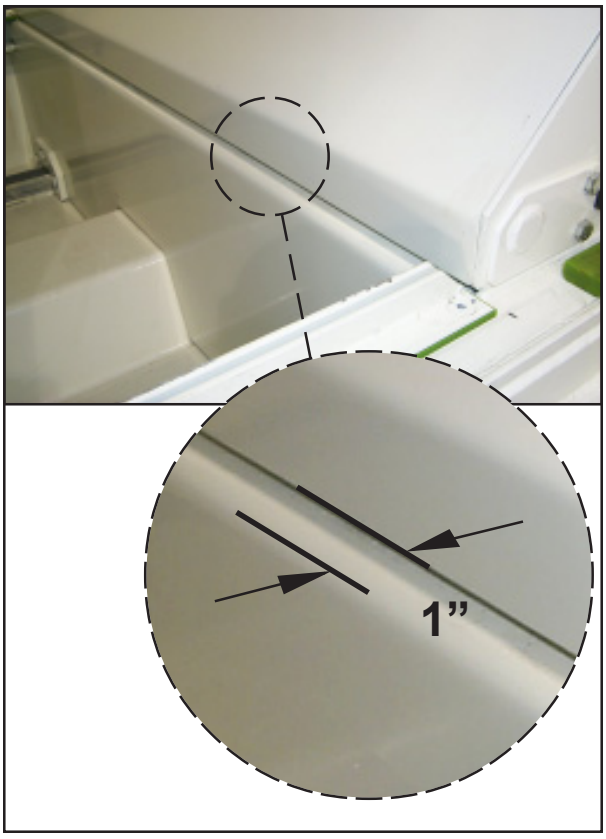


FIGURE #1.35

PACKER LIMIT SWITCH ADJUSTMENT PROCEDURE (CONTINUES)

10. Locate the limit switch on the right-hand side of the vehicle (Figure #1.36);
11. Adjust the limit switch lever so it is “active” when cylinder finger is in the position shown on Figure #1.36 (Limit switch is “clicked”). The lever may require to be bent or twisted to properly activate the limit switch at this exact posltion;
12. Test the packer for a full cycle. Make sure that there is no knocking noise at both ends of the packer cylinder stroke.

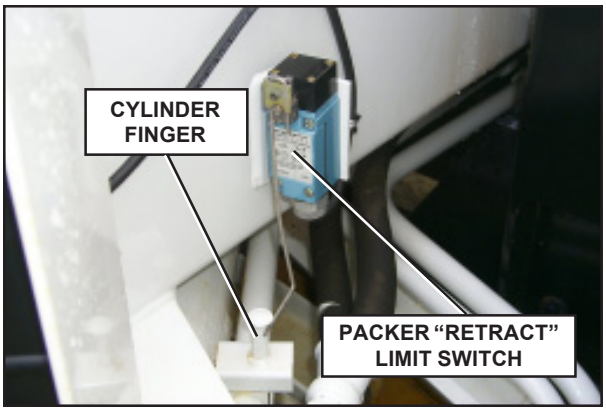


FIGURE #1.36

1.12.3 SLIDING SHOE AND WEAR PAD

Use a pry bar to move the packer up and down and from side to side and if the packer has a vertical movement greater than 3/16" or a side movement greater than 1/8", verify both packer's sliding shoes as well as wear pads (Figure #1.37) under the side rails.

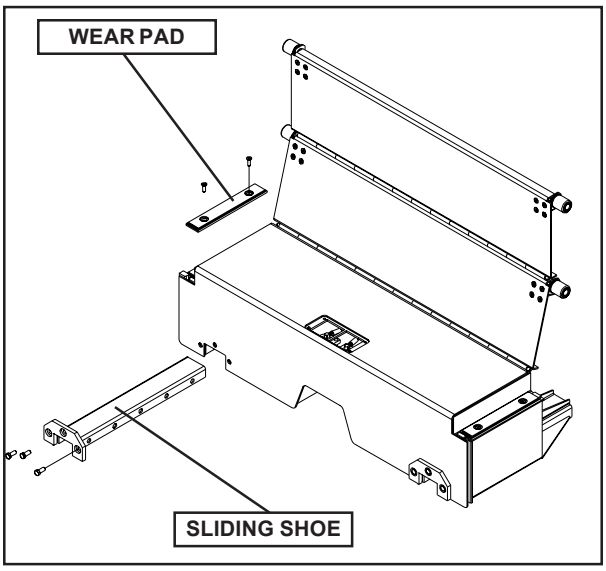


FIGURE #1.37

Two different types of steel are used on packer guiding system: The AR-425 and the AR-500 type steel. The sliding shoes are made of AR-425 type steel to wear out before floor guides, which are made of AR-500. Refer to Body Parts section for replacement part numbers.

To keep the packer in good working order and to prevent breakdowns, replace the sliding shoes and wear pads before extensive wear or damage appears on the hopper floor and walls.

1.12.4 SLIDING SHOE REPLACEMENT

SLIDING SHOE REPLACEMENT PROCEDURE

NOTE: IT IS NOT NECESSARY TO REMOVE THE PACKER TO PERFORM THIS PROCEDURE.

1. Start the engine and engage the hydraulic system;
2. Disable the speed-up system on the console (Figure #1.29) by pushing out the speed-up inhibitor switch;
3. Using the selector switch on the console, select the right-hand side packer control station (Figure #1.38). This switch exists only on vehicles equipped with multiple packer control stations;
4. If the packer is not fully retracted, press the yellow button on the packer control station to retract it;
5. Turn the hydraulic pump and the engine off;

FIGURE #1.38

SLIDING SHOE REPLACEMENT PROCEDURE (CONTINUES)

6. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 "Lockout/ Tagout procedure");
7. Remove the tack welding from behind the packer (Figure #1.38). The welding must be cut out before extending the packer;

View from behind the packer (packer fully retracted)

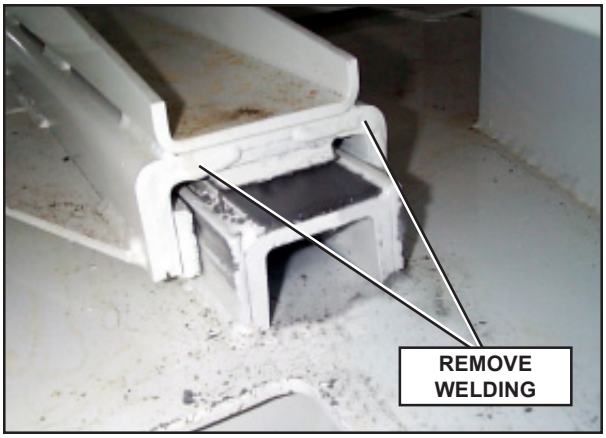


FIGURE #1.39

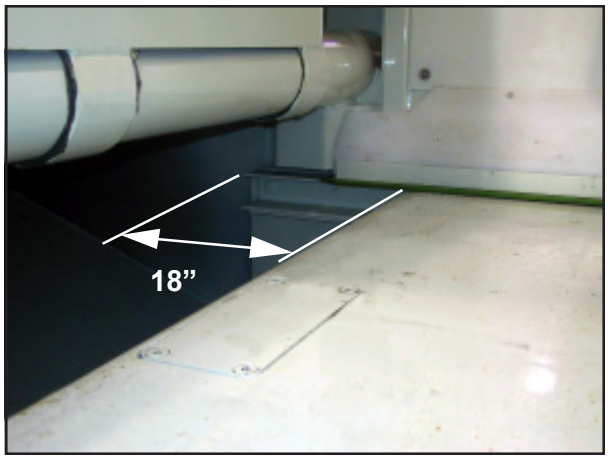


FIGURE #1.40

SLIDING SHOE REPLACEMENT PROCEDURE (CONTINUES)

8. Start the engine; engage the hydraulic pump to extend the packer about 18 inches before the end of the stroke (Figure #1.40);
9. Turn the hydraulic pump and the engine off;
10. Remove all retaining bolts (3) from each sliding shoe (Figure #1.41);

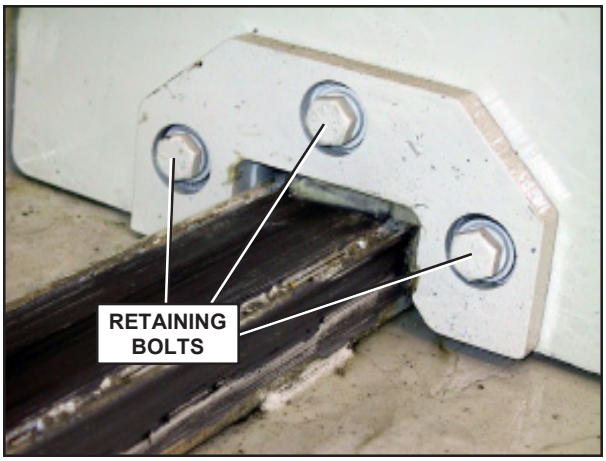


FIGURE #1.41

NOTE: IN ORDER TO MOVE THE PACKER (RETRACT OR EXTEND) FOR A SHORT DISTANCE, PRESS ON THE GREEN (OR YELLOW) BUTTON AND THEN PUSH IMMEDIATELY THE RED BUTTON TO STOP THE PACKER. PULL OUT THE RED BUTTON AND REPEAT THE PROCEDURE UNTIL THE PACKER REACHES THE DESIRED POSITION.

SLIDING SHOE REPLACEMENT PROCEDURE (CONTINUES)

11. Tack weld a piece of steel tubing to the floor rail and to the front of the sliding shoe (Figure #1.42);
12. Then start the engine, engage the hydraulic pump and slowly retract the packer by pressing the yellow button and the red button;
13. The sliding shoes will come out from under the packer as it is retracting (Figure #1.43);
14. Remove the old sliding shoe and tubing. Make sure to remove the welding on the floor guide using a grinder;

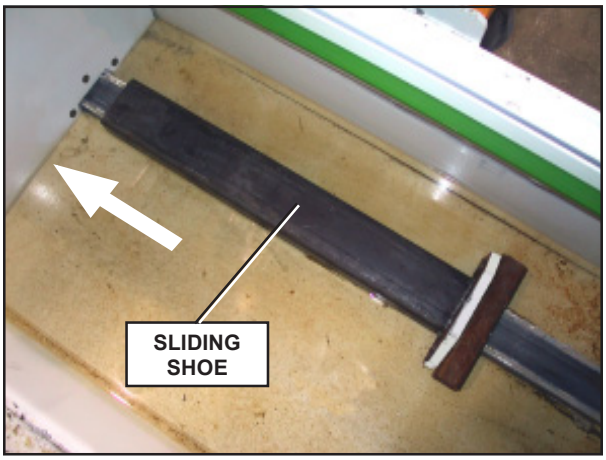


FIGURE #1.43

DANGER

DO NOT CLIMB INTO THE HOPPER WHILE THE PACKER IS MOVING.

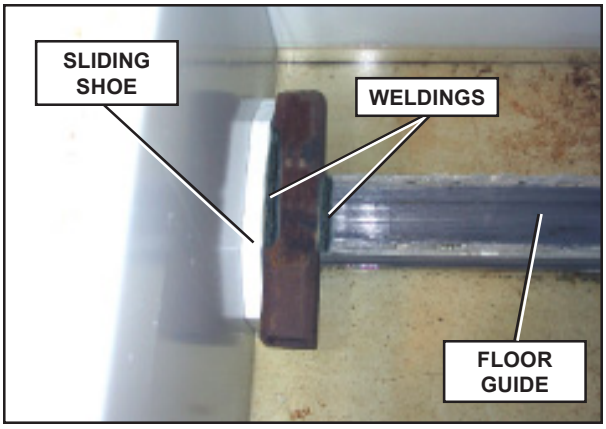


FIGURE #1.42

SLIDING SHOE REPLACEMENT PROCEDURE (CONTINUES)

15. Align the new sliding shoe in front of the packer and slowly extend the packer to make the sliding shoe go under the packer;
16. When the sliding shoes are back in place, tighten all retaining bolts (Figure #1.44);
17. If the wear pads at the top of the packer need to be replaced, refer to “Wear Pads Replacement” section 1.12.5;

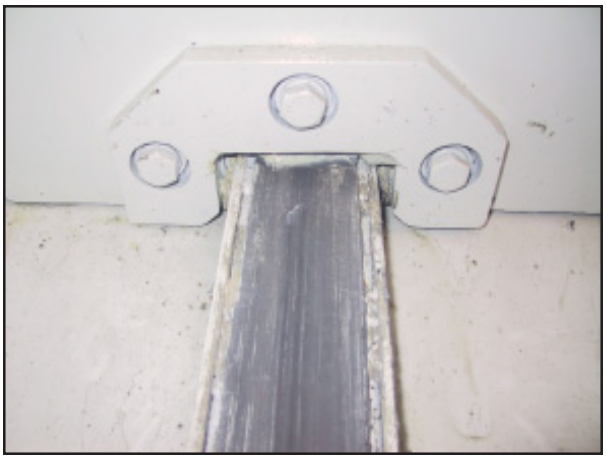


FIGURE #1.44

SLIDING SHOE REPLACEMENT PROCEDURE (CONTINUES)

18. Retract the packer;
19. Weld both sliding shoes to the packer (Figure #1.45);
20. Test the packer for proper operation;
21. If the packer is binding, to find out where the interference is, apply primer paint on the floor guide;
22. Run the packer a few times;
23. The location where the paint comes off indicate the surface to be grinded.

VIEW FROM BEHIND THE PACKER (PACKER FULLY RETRACTED)

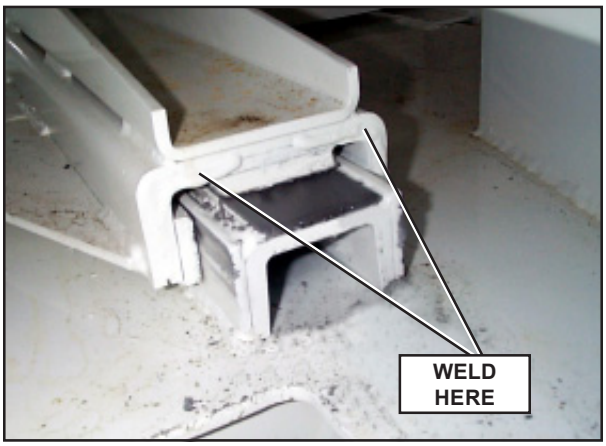


FIGURE #1.45

1.12.5 WEAR PAD REPLACEMENT

Replacement of the wear pads at the top of the packer is required when vertical movement of the packer is greater than 3/16” (Check with a pry bar).

This section will provide the full procedure to remove and change both wear pads at the top of the packer.

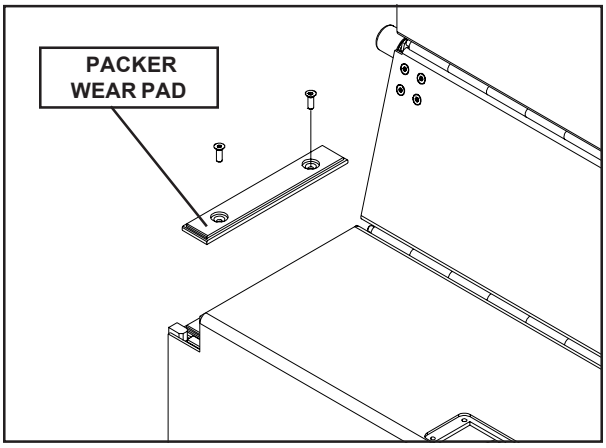


FIGURE #1.46

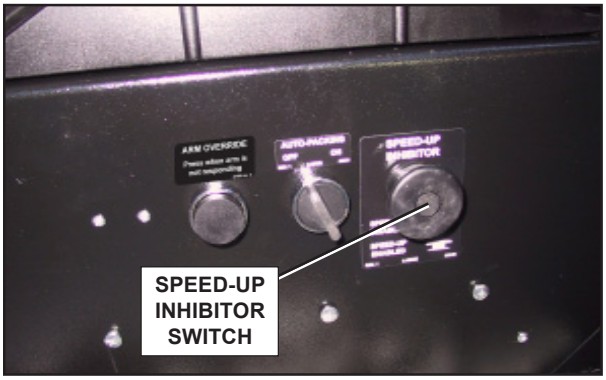


FIGURE #1.47

Apply the following procedure to remove and change the wear pads.

WEAR PAD
REPLACEMENT PROCEDURE

1. Start the engine and engage the hydraulic pump;
2. Disable the speed-up system on the console (Figure #1.47) by pushing out the speed-up inhibitor switch;
3. Using the selector switch on the console, select the right-hand side packer control station (Figure #1.48). This switch exists only on vehicles equipped with multiple packer control stations;
4. If the packer is not fully retracted, press the yellow button on the packer control station to retract it;
5. Turn the hydraulic and the engine off;

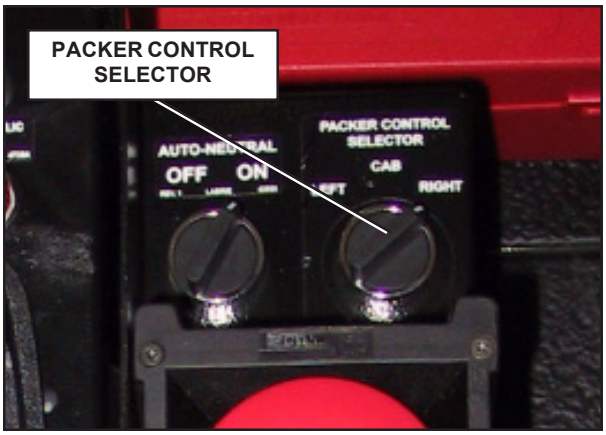


FIGURE #1.48

WEAR PAD REPLACEMENT PROCEDURE (CONTINUES)

6. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 "Lockout/ Tagout procedure");
7. Remove the deflector stand and the plastic shield using the proper Allen Key (Figure #1.49 & #1.50)
8. Remove the side rails from the hopper wall by grinding off the stitch welds and removing the bolts (Figure #1.51);

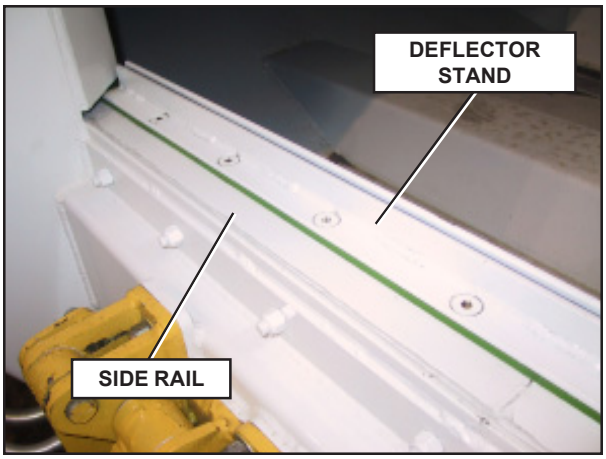


FIGURE #1.49

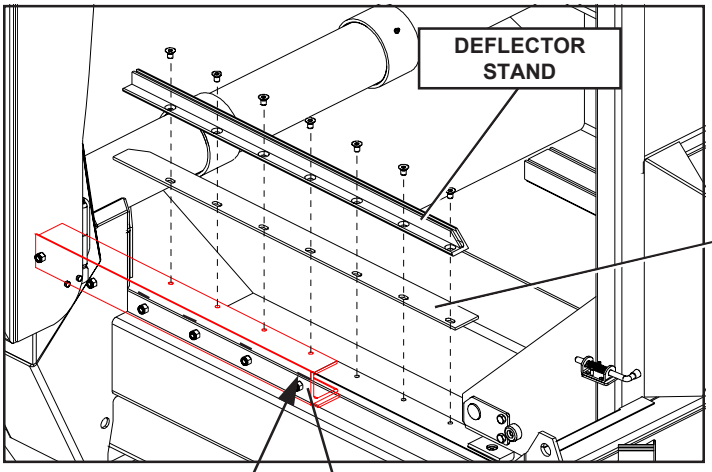
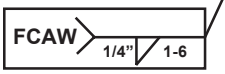


FIGURE #1.50



Stitch welding that holds the rail into position, should be cut out in order to release the side rail.

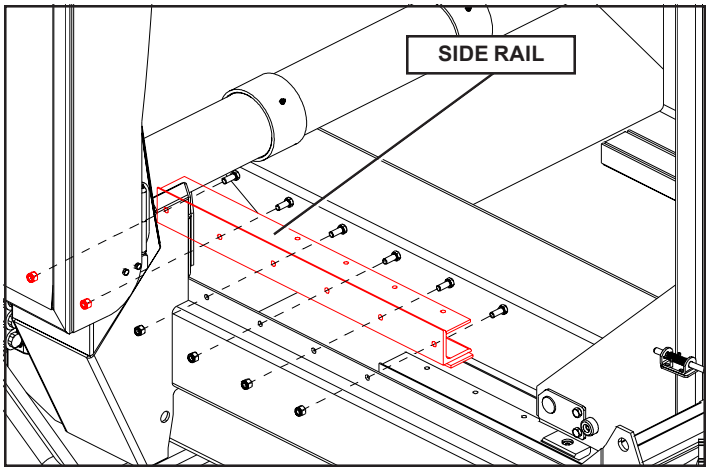


FIGURE #1.51

WEAR PAD REPLACEMENT PROCEDURE (CONTINUES)

9. When both side rails are removed, start the engine and engage the hydraulic pump;
10. Extend the packer about 12 inches before the end of the stroke (Figure #1.52);
11. Turn the hydraulic pump and the engine off;

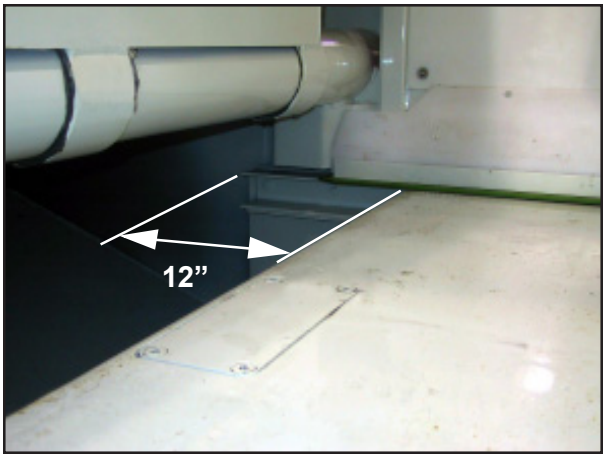


FIGURE #1.52

NOTE: IN ORDER TO MOVE THE PACKER (RETRACT OR EXTEND) FOR A SHORT DISTANCE, PRESS ON THE GREEN (OR YELLOW) BUTTON THEN IMMEDIATELY PUSH THE RED BUTTON TO STOP THE PACKER. PULL THE RED BUTTON AND REPEAT THE PROCESS UNTIL THE PACKER REACHES THE DESIRED POSITION.

WEAR PAD REPLACEMENT PROCEDURE (CONTINUES)

12. Replace both wear pads and retract the packer (Figure #1.53);
13. Reinstall the side rails, plastic shield and the deflector stand back in place.
14. Stitch weld the rails along the top edge of the hopper wall (See Figure #1.50).

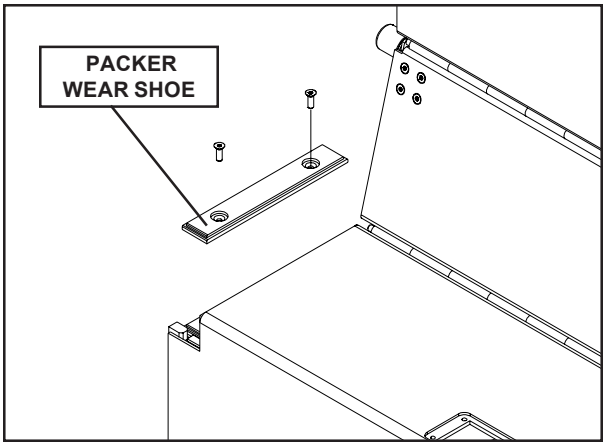


FIGURE #1.53

DANGER

DO NOT CLIMB INTO THE HOPPER WHILE THE PACKER IS MOVING.

1.12.6 PACKER REMOVAL

PACKER REMOVAL PROCEDURE

1. Start the engine and engage the hydraulic pump;
2. Disable the speed-up system on the console (Figure #1.54) by pushing out the speed-up inhibitor switch;
3. Using the selector switch on the console, select the right-hand side packer control station (Figure #1.55). This switch exists only on vehicles equipped with multiple packer control stations;
4. Retract the packer and then stop the hydraulic pump and the engine;
5. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 "Lockout/ Tagout procedure");
6. Remove the deflector stand and the plastic shield using the proper Allen Key (Figure #1.49 & #1.50);
7. Remove both side rails from the hopper wall (Figure #1.50 & #1.51). Stitch welding require to being ground off in order to release the side rails (see Figure #1.50);

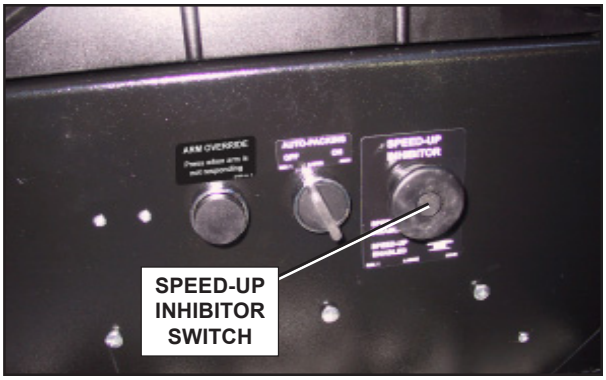


FIGURE #1.54

PACKER REMOVAL PROCEDURE (CONTINUES)

8. Remove the floating panel from the hopper. Refer to section 1.12.9 "Floating Panel Removal Procedure";
9. Start the engine and engage the hydraulic system;
10. Extend the packer about 12" from the end of the stroke and stop the engine (see Figure #1.52);
11. Remove the access cover and then both cylinder pins (Figure #1.57);

NOTE: THE GREASING HOSES MUST BE DISCONNECTED FROM THE CYLINDER PINS.

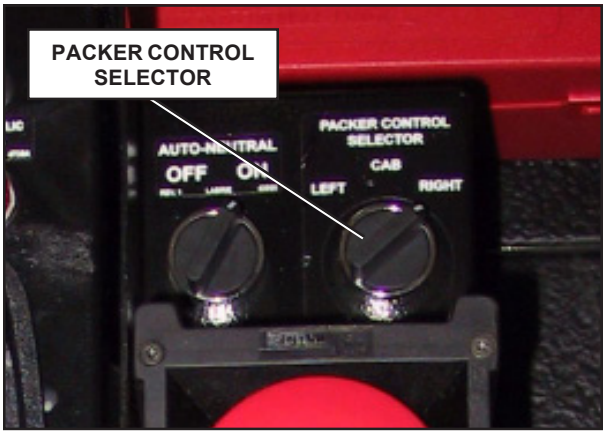


FIGURE #1.55

DANGER

DO NOT CLIMB INTO THE HOPPER WHILE THE PACKER IS MOVING.

PACKER REMOVAL PROCEDURE (CONTINUES)

NOTE: THE CYLINDER PIN TOP PLATES ARE PROVIDED WITH TWO (2) THREADED HOLES TO USED AS A PULLER BY INSERTING TWO (2) ½ NC BOLTS.

12. After removing the two cylinder pins, start the engine and retract the hydraulic cylinders;
13. Remove the four packer roller assemblies from the follower panels (Figure #1.57);
14. Fold the follower panels over the packer;
15. Weld the follower panels to the packer;

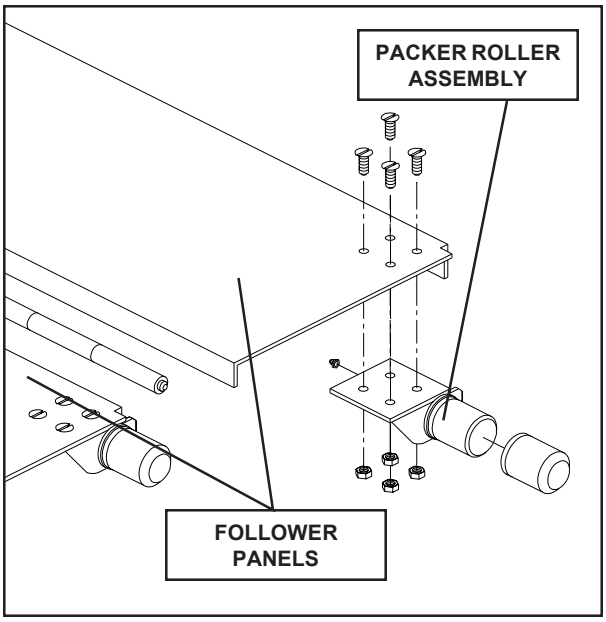


FIGURE #1.56

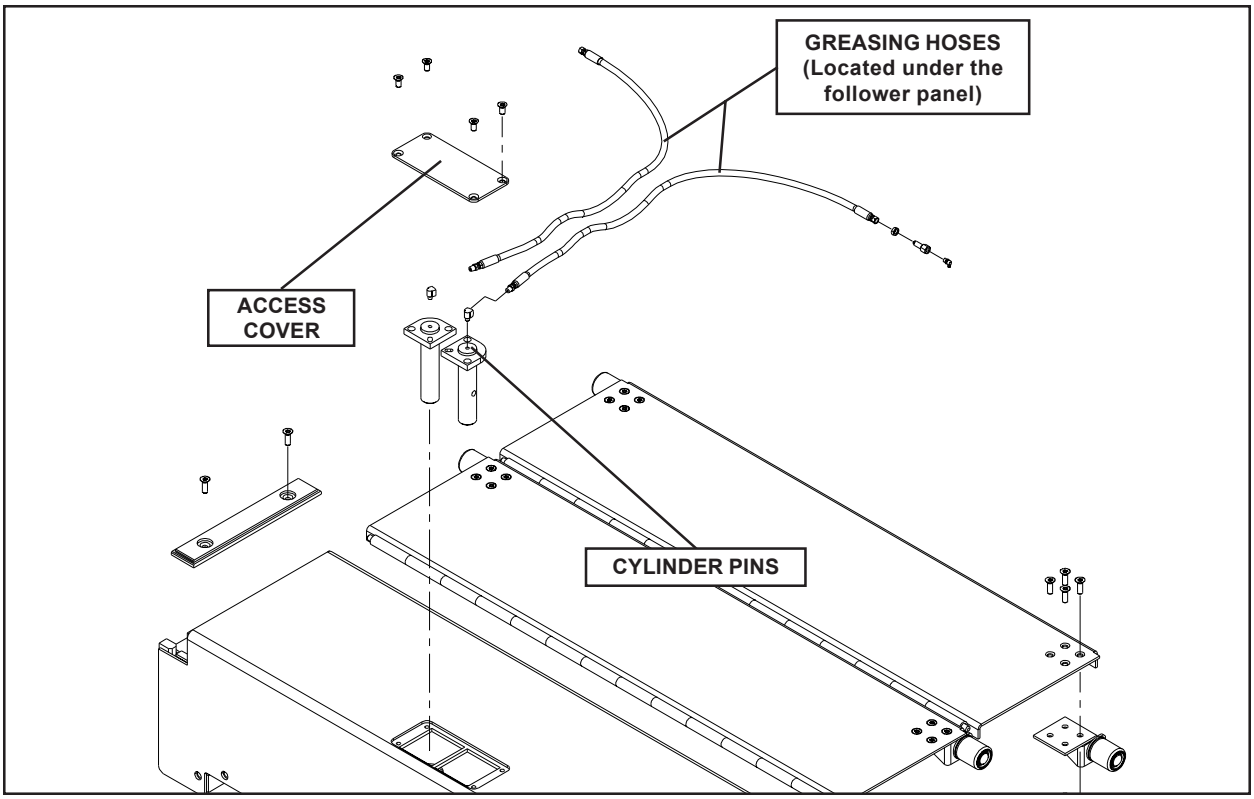


FIGURE #1.57

PACKER REMOVAL PROCEDURE (CONTINUES)

16. Attach the packer to a lifting device (Fork lifter) in order to extract it from the hopper;
17. Re-install the new packer into the hopper checking the alignment of the packer with the floor guides.
18. Install a new wiper blade on each side of the packer (Figure #1.59). These wiper blades may require to be adjusted to fit between the new packer and the hopper walls;
19. Once the packer is installed in the hopper, install roller assemblies and reverse the procedure to reconnect the hydraulic cylinders and re-install both side rails;
20. Stitch weld the rails along the top edge of the hopper wall (see Figure #1.50);
21. Once finished re-assembling the removed components, lubricate and check for proper operation of the packer.

DANGER

DO NOT CLIMB INTO THE HOPPER WHILE THE PACKER IS MOVING.

DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

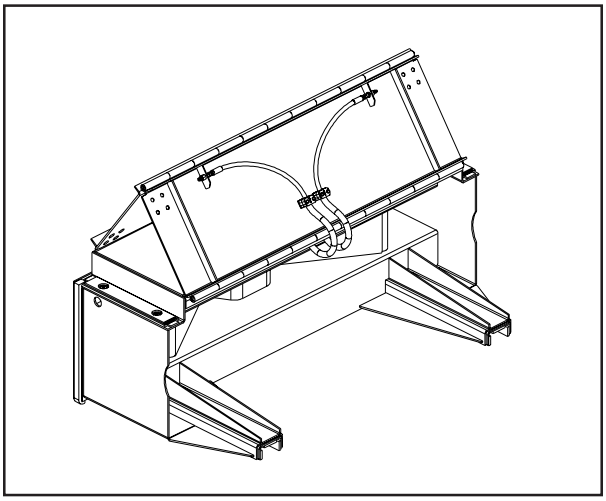


FIGURE #1.58

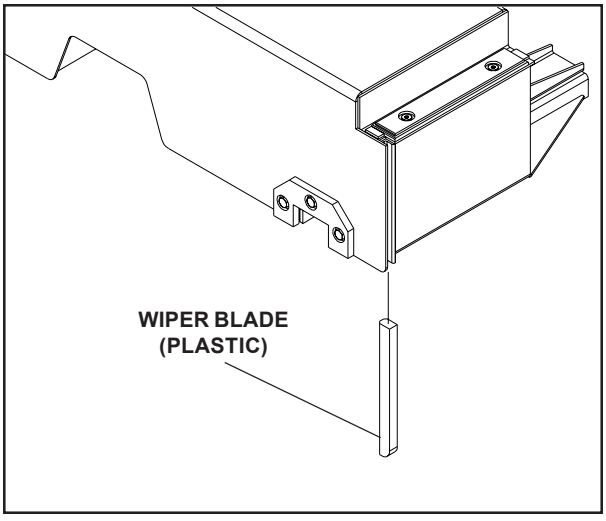


FIGURE #1.59

1.12.7 FLOOR GUIDE REPLACEMENT PROCEDURE

After years of hard work, the floor guides inside the hopper may require replacement. The following step-by-step procedure will help removing and replacing the floor guides inside the hopper.

FLOOR GUIDE REPLACEMENT PROCEDURE

1. Start the engine and engage the hydraulic system;
2. Disable the speed-up system on the console (Figure #1.54) by pushing out the speed-up inhibitor switch;
3. Using the selector switch on the console, select the right-hand side packer control station (Figure #1.60). This switch exists only on vehicles equipped with multiple packer control stations;
4. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 "Lockout/ Tagout procedure");
5. Remove the packer from the hopper (refer to section 1.12.6 "Packer removal procedure");

FIGURE #1.60

FLOOR GUIDE REPLACEMENT PROCEDURE (CONTINUES)

6. Retract the hydraulic cylinders and move them out of the way;
7. Mark the exact location of both floor guides to ensure the proper positioning of the new ones;
8. Using a grinder or cutting tool, remove the floor guides by cutting the stitch welding (Figure #1.61);
9. Clean the hopper floor and wall surfaces;
10. Position new guides onto the hopper floor (Do not tack or weld yet);

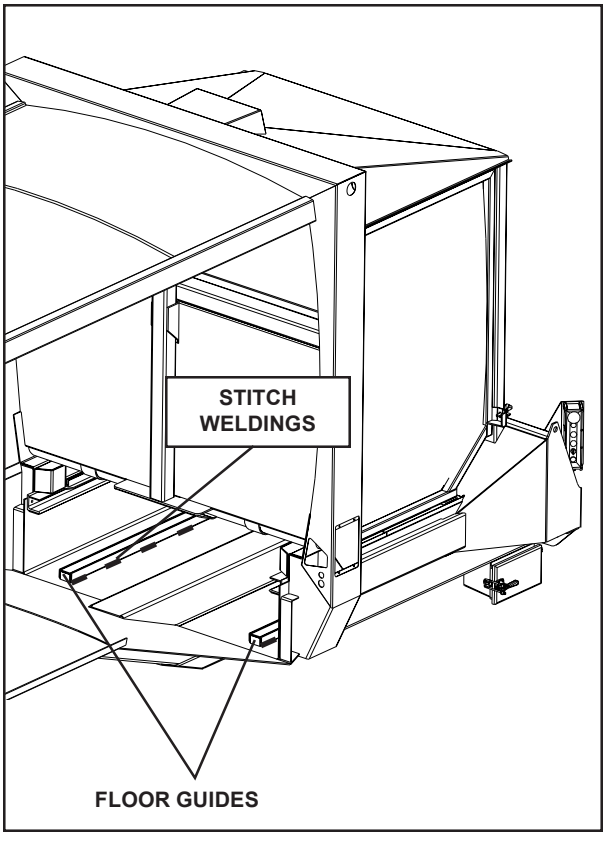


FIGURE #1.61

FLOOR GUIDE REPLACEMENT PROCEDURE (CONTINUES)

11. Bring the packer over the hopper, using a proper lifting device;
12. Lower the packer on the floor guides, and align them with the packer;
13. Once the packer sits on the floor guides, center the packer (and the floor guides) in the hopper making sure they are parallel to the hopper wall (Figure #1.62);
14. Tack weld the floor guides to the hopper floor (Figure #1.63);
15. Adjust the packer wipers on both sides (UHMW plastic);
16. Connect the packer cylinders (refer to section 1.12.6 “Packer removal procedure”);

VIEW FROM BEHIND THE PACKER (PACKER FULLY EXTENDED)

FIGURE #1.62

FLOOR GUIDE REPLACEMENT PROCEDURE (CONTINUES)

17. Retract slowly the packer under the rails until the end of the packer stroke. Keep the packer centered with the hopper, re-install the side rails then tack the floor guides to the hopper floor (Figure #1.64);
18. Extend the packer to the middle of the hopper; verify the alignment with the hopper side rails;

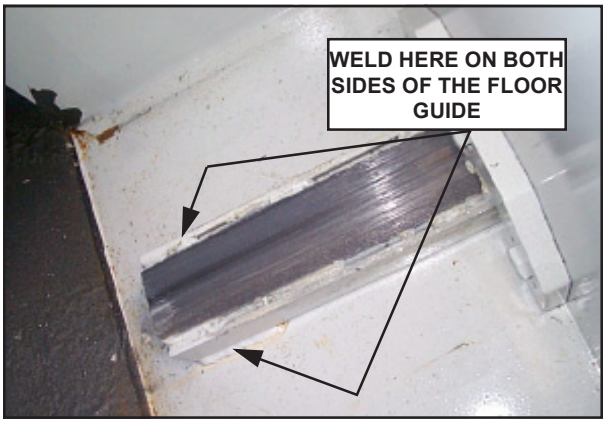


FIGURE #1.63

FIGURE #1.64

FLOOR GUIDE REPLACEMENT PROCEDURE (CONTINUES)

19. Stitch weld the floor guides going towards the back of the vehicle (Figure #1.65);
20. Then fully extend the packer to finish welding under the packer (Figure #1.66);
21. Check for proper operation.

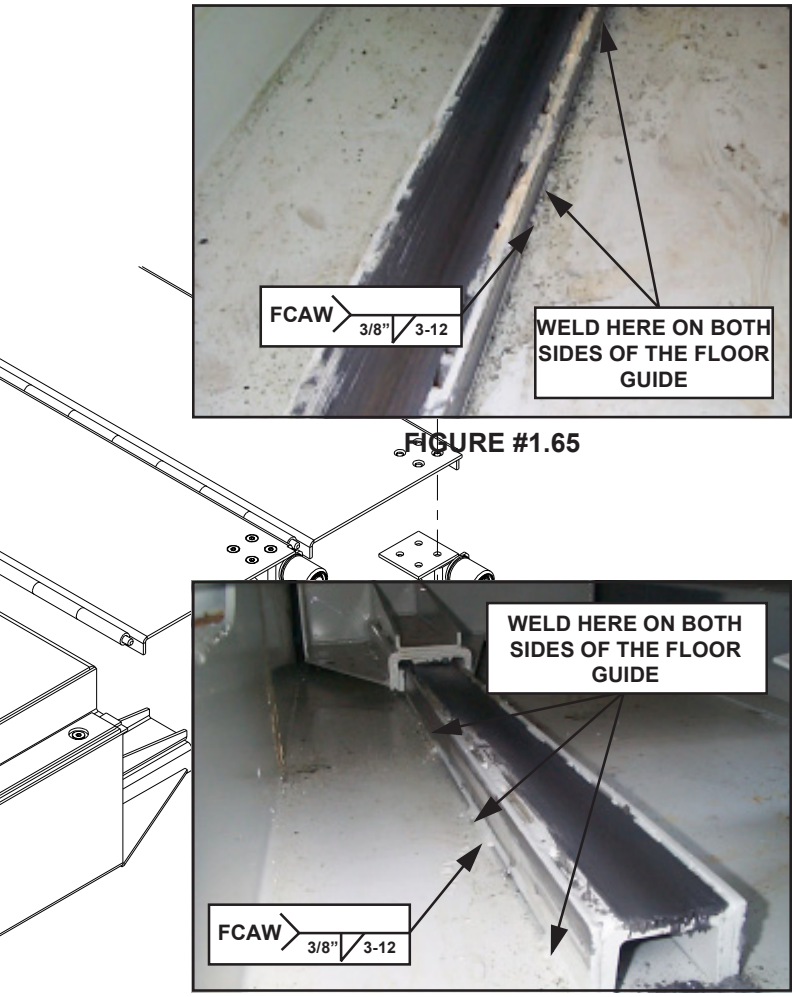


FIGURE #1.65

FIGURE #1.66

1.12.8 PACKER ROLLER REPLACEMENT

Packer rollers need to be replaced when damaged, showing excessive wear or flat spots.

PACKER ROLLER REPLACEMENT PROCEDURE

1. Lower the floating panel;
2. Unbolt the roller assembly (Figure #1.67);
3. Clean the roller axle;
4. Install a new roller;
5. Bolt assembly in place;
6. Check full cycle for smooth operation.

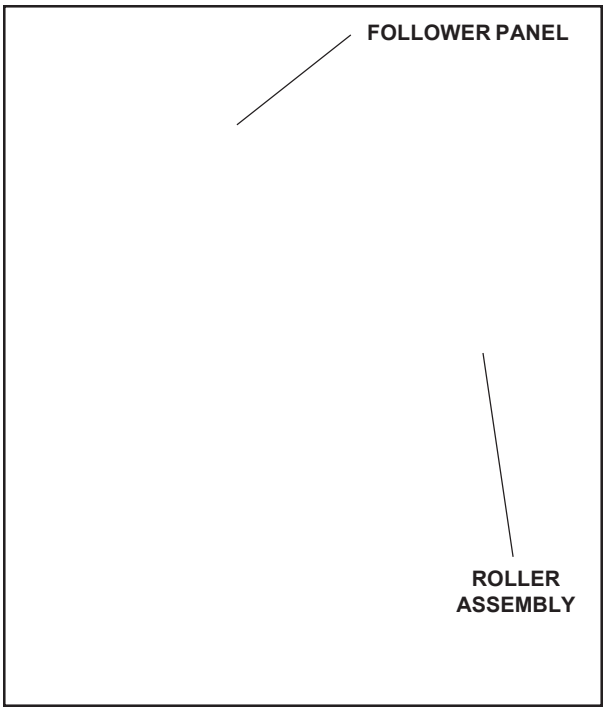


FIGURE #1.67

1.12.9 FLOATING PANEL REMOVAL AND WEAR PAD REPLACEMENT

FLOATING PANEL REMOVAL AND WEAR PAD REPLACEMENT PROCEDURE

1. Start the engine and engage the hydraulic system;
2. Disable the speed-up system on the console (Figure #1.54) by pushing out the speed-up inhibitor switch;
3. Using the selector switch on the console, select the R-H side packer control station (Figure #1.68). This switch exists only on vehicles equipped with multiple packer control stations;
4. Fully extend the packer then press the red emergency stop button to keep it at this position;
5. Disengage the hydraulic pump and shut the engine “OFF”.
6. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 “Lockout/ Tagout procedure”);

FIGURE #1.68

FLOATING PANEL REMOVAL AND WEAR PAD REPLACEMENT PROCEDURE

7. Bring the floating panel to a vertical position and hold it, using the handle at the upper left corner of the panel (Figure #1.69);
8. Remove the safety pin from its holder and put the pin in the hole at the bottom left of the floating panel (Figure #1.69). This pin is a mandatory safety device, preventing from being caught at the pinch point, when manipulating the floating panel;

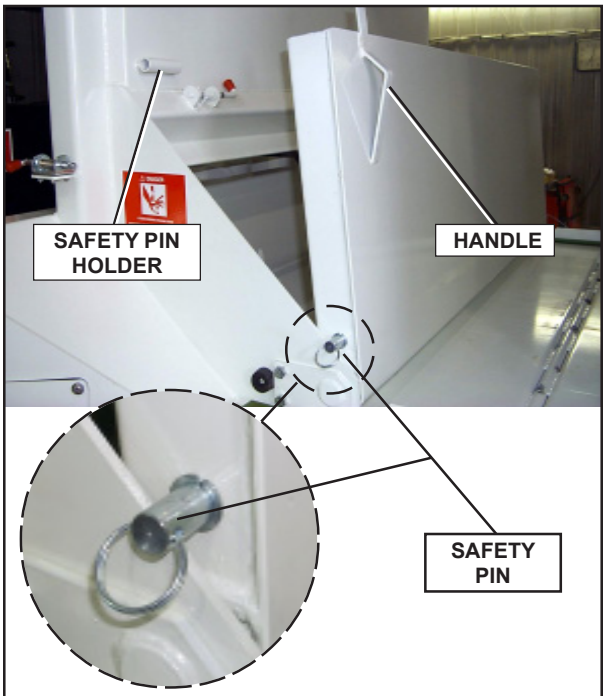


FIGURE #1.69

FLOATING PANEL REMOVAL AND WEAR PAD REPLACEMENT PROCEDURE

9. Continue tilting the floating panel over the packer (Figure #1.70);
10. Remove retaining screws holding the wear pad (Figure #1.71);
11. Install the new wear pad and tighten bolts;
12. Re-install the floating panel back in place;
13. Check for even contact of wear pad with the packer and follower panels.

WARNING

INSTALL THE FLOATING PANEL SAFETY PIN TO PREVENT HANDS OR FINGERS FROM BEING CAUGHT AT THE PINCH POINT OF THE FLOATING PANEL.

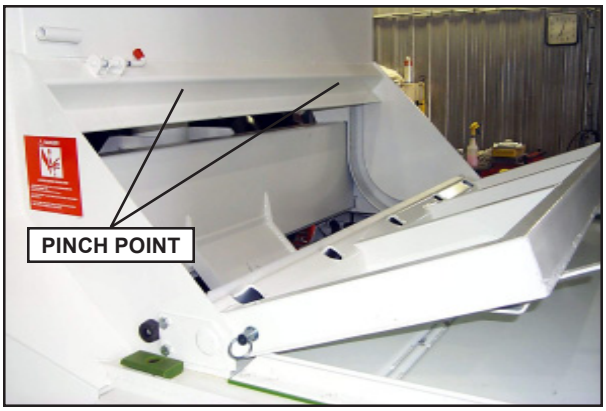


FIGURE #1.70

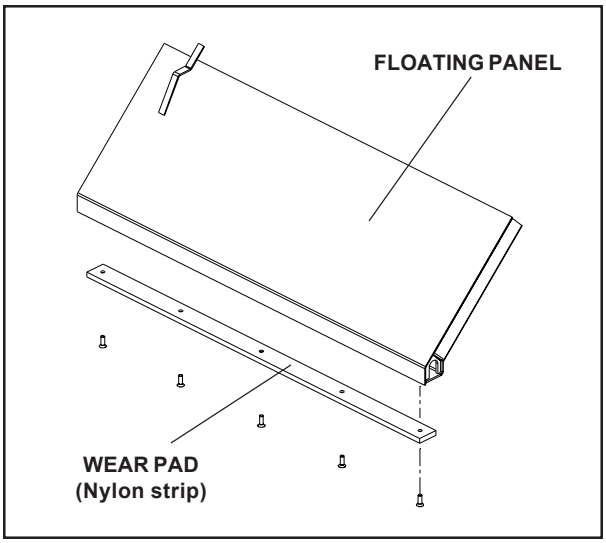


FIGURE #1.71

1.12.10 PACKER CYLINDER REPLACEMENT

PACKER CYLINDER REPLACEMENT PROCEDURE

1. Start the engine, engage the hydraulic pump;
2. Disable the speed-up system on the console (Figure #1.54) by pushing out the speed-up inhibitor switch;
3. Using the selector switch on the console, select the right-hand side packer control station (Figure #1.72). This switch exists only on vehicles equipped with multiple packer control stations;
4. Fully extend the packer;
5. Disengage the pump and stop the engine;
6. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 “Lockout/ Tagout procedure”);

FIGURE #1.72

PACKER CYLINDER REPLACEMENT PROCEDURE (CONTINUES)

7. Remove the floating panel (refer to section 1.12.9);
8. Open the access cover (Figure #1.73), remove both cylinder pins and retract the packer;
9. Remove the roller assemblies on the follower panels (See section 1.12.8);
10. Fold the follower panels over the packer (Figure #1.74);

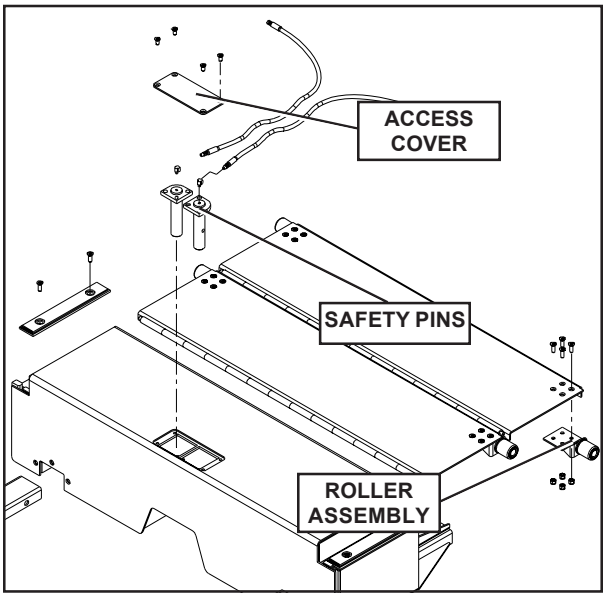


FIGURE #1.73

PACKER CYLINDER REPLACEMENT PROCEDURE (CONTINUES)

11. Retract the cylinders;
12. Remove the hydraulic hoses from the cylinders (Use absorbent material to catch oil spills);
13. Attach and secure the cylinder to a lifting device;
14. Remove the piston side pin that holds the cylinder. Protect the limit switch during the removal of the cylinder;
15. Remove cylinder fingers used for the limit switches (Figure #1.34) installed on both cylinders and save them for the new cylinder;
16. Replace the faulty cylinder by a new one. Contact LabriePlus for replacement under warranty;
17. Install the cylinder fingers on the new cylinders. The limit switches

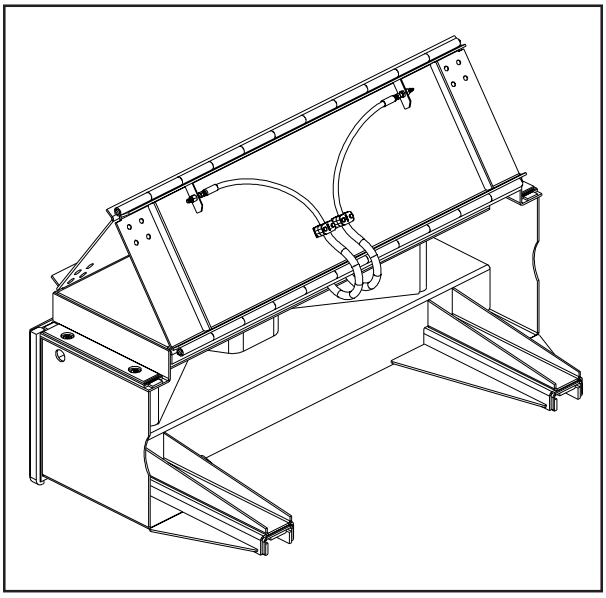


FIGURE #1.74

DANGER

DO NOT CLIMB INTO THE HOPPER WHILE THE PACKER IS MOVING.

CAUTION

PACKER CYLINDERS MUST BE REMOVED WITH A LIFTING DEVICE.

PACKER CYLINDER REPLACEMENT PROCEDURE (CONTINUES)

may require to be re-adjusted afterwards; refer to section 1.12.2 “Limit switch adjustment”;

18. Reverse the procedure to install all the other components (pins, rollers, etc.);
19. Prior to intalling the cylinder pins, apply an anti-seize compound on the pin;
20. Grease the cylinder pins and check for proper operation.

1.13 TAILGATE AND BODY HINGES MAINTENANCE

1.13.1 TAILGATE LOCKING MECHANISM (single tailgate)

It is important to lubricate the tailgate hinges and the locking mechanism with multipurpose grease as per the lubricating schedule (Refer to section 2.1 "Recommended Lubricants").

Also, inspect the welding around hinges. The proper working order of the following components is also to be checked: (Figures #1.75 to #1.80)

- ✓ Tailgate hydraulic cylinders;
- ✓ Cylinder pins and circlips;
- ✓ Tailgate hinges and pins;
- ✓ Wear on the locking mechanism;
- ✓ Wear on the tailgate lock pins;
- ✓ Tailgate rubber seal.

CAUTION

EXCESSIVE WEAR MIGHT BE DANGEROUS AND HARMFUL TO THE PROPER WORKING ORDER OF THE TAILGATE.

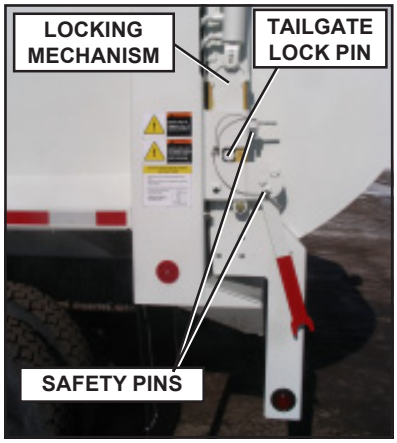


FIGURE #1.75

1.13.2 TAILGATE SEAL AND HINGES INSPECTION

Tailgate hinge pins must not have any sign of wear or metal fatigue. The retaining bolts must be kept tight (Figure #1.76). The tailgate rubber seal must not show any sign of damage. Replace the seal if necessary.

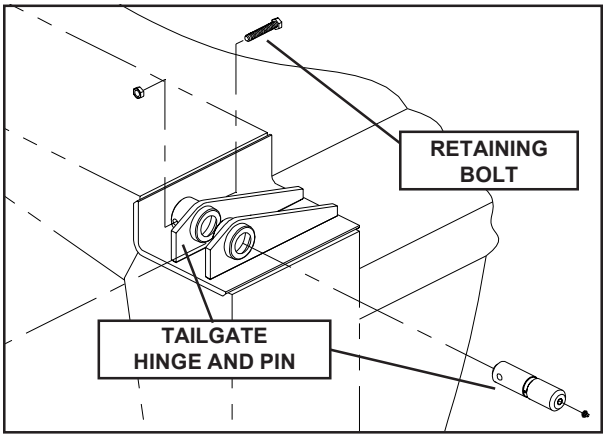


FIGURE #1.76

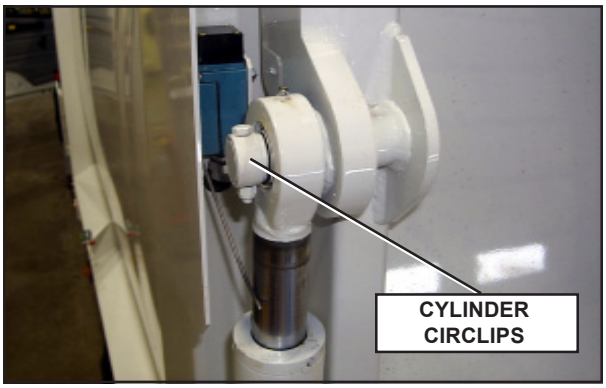


FIGURE #1.77

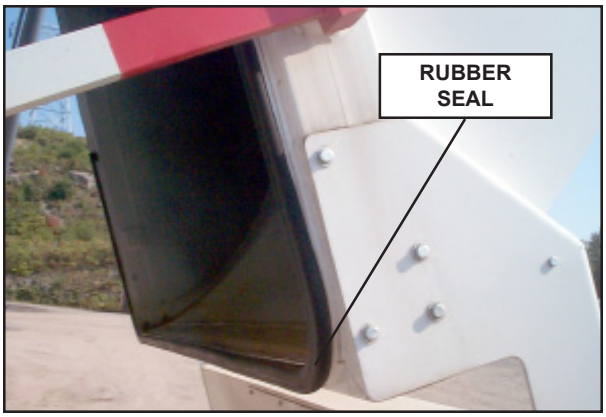


FIGURE #1.78

1.13.3 BODY/CHASSIS HINGES INSPECTION

Monthly lubrication of the body-chassis hinges should be done. Also, inspect for cracks or corrosion. Any crack must be reported, and repaired by QUALIFIED personnel. Contact LabriePlus for technical support, if required.

VIEW FROM BEHIND THE REAR MUD GUARD

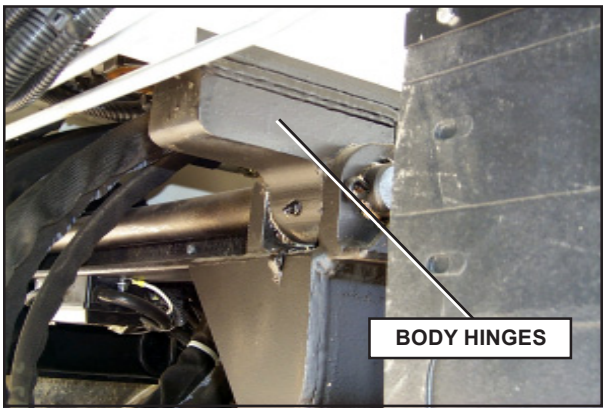


FIGURE #1.79

DANGER

DO NOT OPERATE THIS EQUIPMENT IF THERE ARE ANY SIGNS OF DAMAGE OR INCOMPLETE REPAIRS.

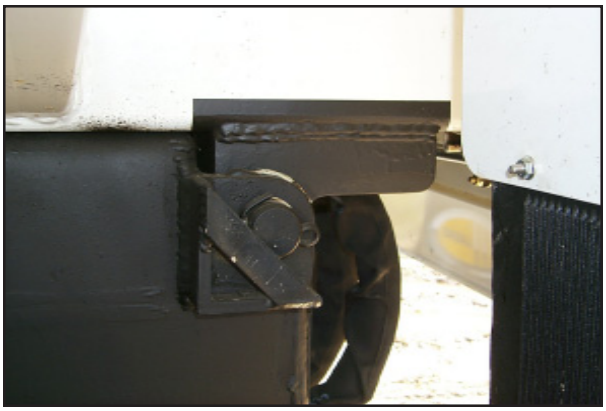


FIGURE #1.80

1.13.4 BODY RAISED LIMIT SWITCH

A limit switch located on the truck chassis (Figure #1.81) activates the backup alarm and a warning buzzer sounds as soon as the body is about one foot above the chassis. Adjust the limit switch accordingly.

This safety feature is provided to warn people around, that the truck is unloading and to tell the operator that the body is still raised.

DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

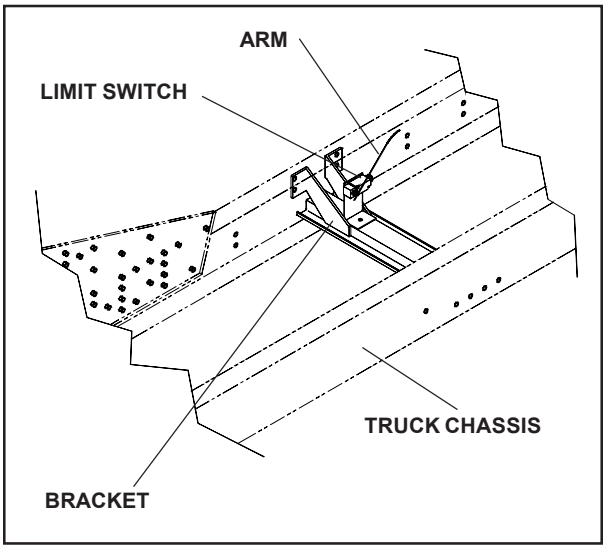


FIGURE #1.81

1.13.5 TAILGATE LIMIT SWITCH ADJUSTMENT

Standard Expert 2000™ units are equipped with a limit switch located at the top of the left-hand side tailgate cylinder (Figure #1.82). When the tailgate is unlocked, the cylinder releases the limit switch lever that activates the backup alarm and a warning buzzer inside the cab.

As the cylinder head is moving down, the limit switch trigger lever is released and the warning buzzer and the backup alarm should be heard.

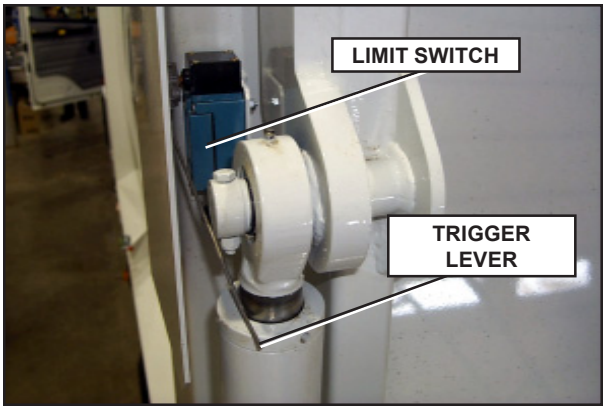


FIGURE #1.82

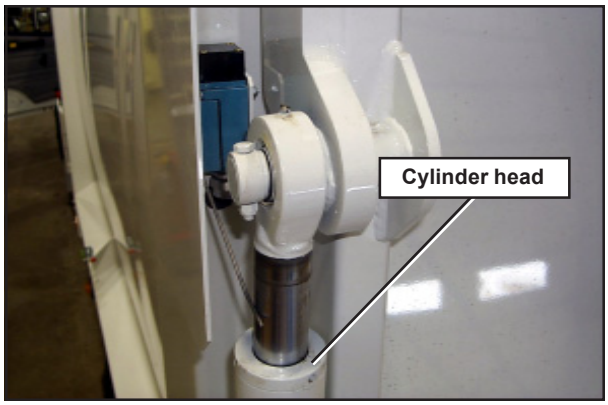


FIGURE #1.83

Apply the following procedure to adjust the limit switch located next to the hydraulic cylinder (tailgate unlocked).

LIMIT SWITCH ADJUSTMENT PROCEDURE (Tailgate unlocked)

1. Start the engine and engage the hydraulic system;
2. Open the tailgate using the lever on the console and listen if the warning buzzer and the backup alarm start to beep as you move the lever;
3. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 “Lockout/ Tagout procedure”);
4. Adjust the trigger lever of the limit switch so the limit switch will “click”, as the cylinder head is moving down (Figures #1.82 & #1.83).

WARNING

ENSURE THAT NO ONE IS STANDING BEHIND OR NEAR THE TAILGATE WHEN ADJUSTMENT PROCEDURE IS CARRIED OUT.

1.13.6 OPTIONAL LIMIT SWITCH AND PROXIMITY SWITCH

An optional limit switch is also available to warn to the operator that the tailgate is fully opened. This limit switch is located next to the left-hand side tailgate hinge (Figure #1.84). When the tailgate reaches its fully opened position, it will trigger a red light on the console.

TAILGATE FULLY OPEN LIMIT SWITCH (Optional)

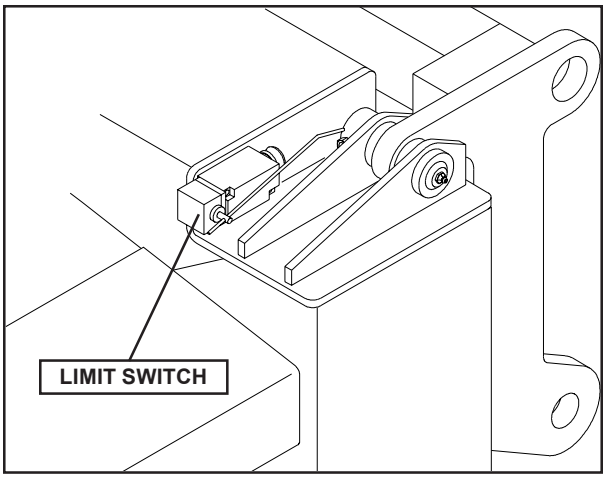


FIGURE #1.84

A proximity switch may instead be used to trigger the backup alarm and warning buzzer in the cab (Tailgate unlocked). However, the location and the procedure to adjust the proximity switch may differ from the standard limit switch. The proximity switch will be located behind the left-hand side tailgate locking mechanism. This proximity switch requires no other maintenance than checking the distance between the metal target and the face of the proximity switch. The proximity switch must be tightened at 3/16” from the metal plate (Figure #1.85 & #1.86)

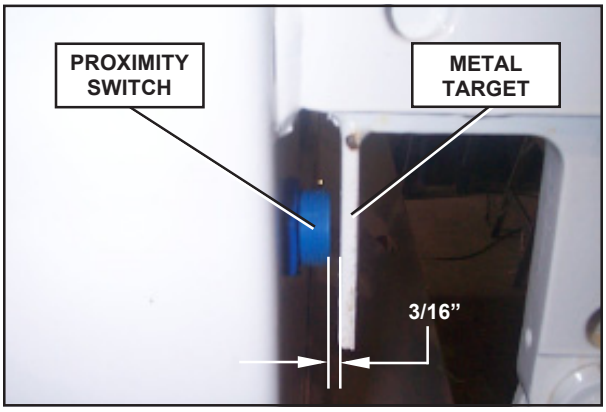


FIGURE #1.85

FIGURE #1.86

1.14 HYDRAULIC SYSTEM MAINTENANCE

1.14.1 GENERAL MAINTENANCE

In order to keep the hydraulic system efficient and reliable, the following care must be taken:

HYDRAULIC SYSTEM GENERAL INSPECTION PROCEDURE

1. For new vehicles, change the return filter element after 50 hours of use, and twice a year afterwards (See section 1.14.7 “Filter replacement procedure”);
2. Clean the strainer inside the tank after the first 50 hours of use, and once a year afterwards. (See section 1.14.8 “Strainer cleaning procedure”);
3. Hydraulic oil must be replaced at least once a year or when contaminated.
   (See section 1.14.6 “Hydraulic oil replacement procedure”);
4. When maintenance is carried out, protect all hoses, fittings and pipes or any other holes from dirt that would eventually get into the oil. Use plugs to block hoses that are not connected;
5. Monthly inspect and adjust (If necessary) the oil pressure of the hydraulic system. (See section 1.15 “Hydraulic Vane Pump Systems” or section 1.16 “Hydraulic Gear Pump Systems);
6. On a daily basis, inspect the hydraulic lines and connections for leaks, and correct if necessary;
7. Inspect the pump for leaks or unusual noise;
8. The ball valve on the hydraulic tank must be completely opened before engaging the pump or starting the engine (See section 1.9 “Prior to Start up”).

1.14.2 HYDRAULIC CYLINDER INSPECTION PROCEDURES

To maintain proper working order and extend cylinder life, it is essential to inspect the hydraulic cylinders at least once a month. Make sure that connections between all hoses and pipes are tightened, and there are no oil leaks.

DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

Check that all cylinder caps are firmly tightened and there are no leaks. All leaks must be repaired immediately by replacing damaged or faulty cylinders. Lubricate and inspect all cylinders’ mounting points (pins, retaining bolts, etc.).

WARNING

VERIFY THAT THE BALL VALVE ON THE SUCTION LINE IS COMPLETELY OPENED BEFORE ENGAGING THE HYDRAULIC SYSTEM.

1.14.3 MAIN HYDRAULIC VALVE

The Expert 2000™ side-loading unit is equipped with a directional control valve which is assembled as follows from top to bottom (Figure #1.87).

For further details, refer to the hydraulic system Parts and Diagram section, or see the simplified diagram for the packing system in the troubleshooting section.

NOTE: CONFIGURATION OF THE MAIN VALVE MAY CHANGE DEPENDING ON WHAT OPTION IS INSTALLED ON THE VEHICLE.

To get more information regarding specific options, refer to the proper section of the manual included with the vehicle documentation or contact LabriePlus.

VALVE SECTION DESCRIPTION:

Crusher panel:	4 ways, 3 positions, manually operated.
Tailgate:	4 ways, 3 positions, operated with an air actuator.
Packer:	4 ways, 3 positions, operated with an air actuator.
Body hoist:	3 ways, 3 positions, operated with an air actuator.

MAIN HYDRAULIC VALVE

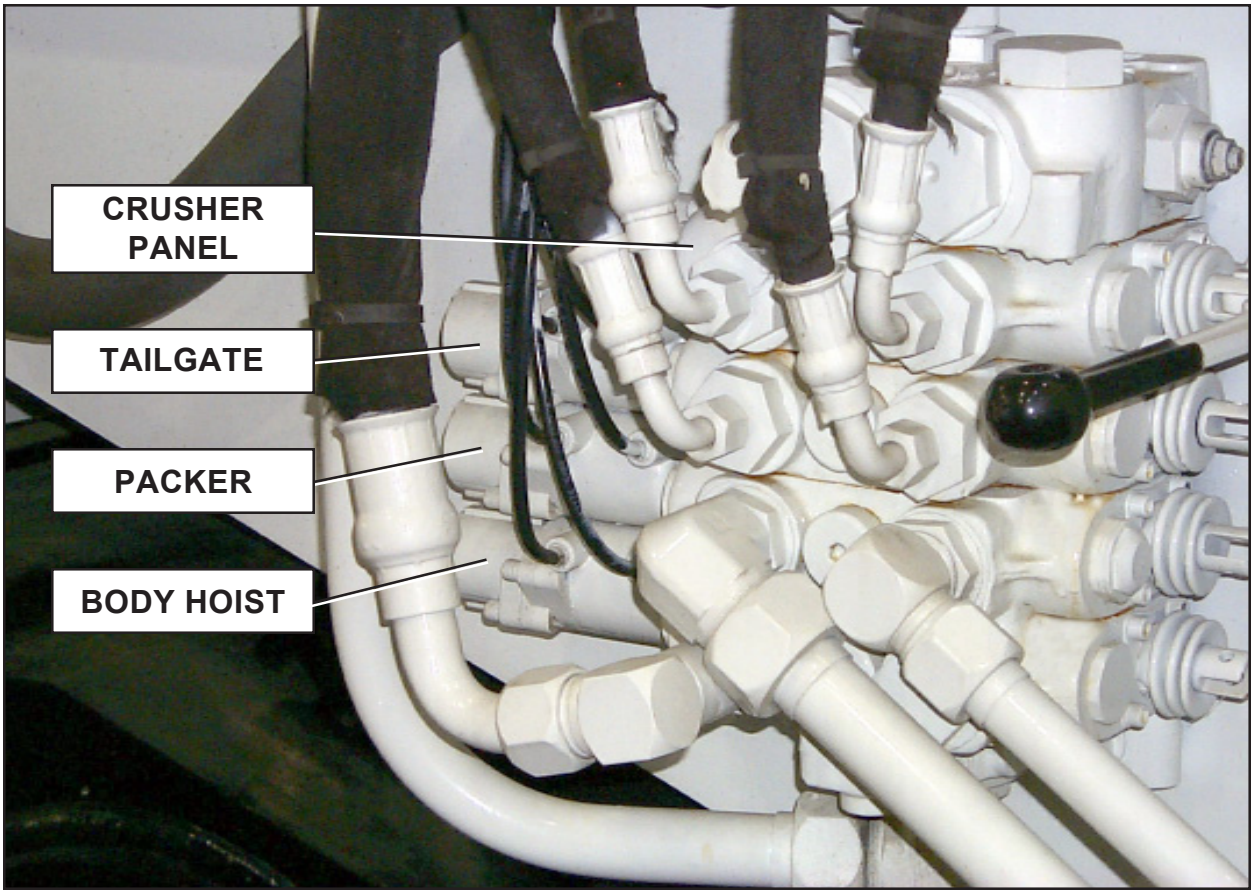


FIGURE #1.87

1.14.4 CYCLE TIME FOR ALL HYDRAULIC FUNCTIONS

ENGINE AT 1200RPM (VANE PUMP)

FUNCTIONS	CYCLE TIME
CRUSHER PANEL:	4-5 SEC.
TAILGATE:	40-50 SEC.
PACKER:	12-14 SEC.
BODY HOIST:	55-65 SEC.

ENGINE AT 1500RPM (GEAR PUMP)

FUNCTIONS	CYCLE TIME
CRUSHER PANEL:	4-5 SEC.
TAILGATE:	40-50 SEC.
PACKER:	12-14 SEC.
BODY HOIST:	55-65 SEC.

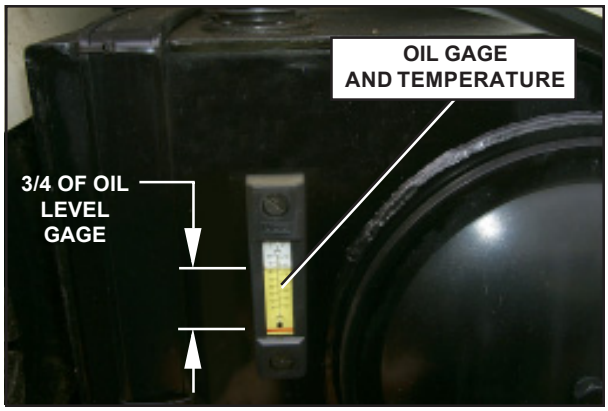


FIGURE #1.88

1.14.5 HYDRAULIC TANK INSPECTION PROCEDURE

Verify that the oil in the reservoir is **clean** and always at the **appropriate level.** The oil must be clean and **not colored.**

CAUTION

MAXIMUM TEMPERATURE FOR HYDRAULIC OIL IS 180°F.

HYDRAULIC TANK INSPECTION PROCEDURE

1. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 "Lockout/ Tagout procedure");
2. Clean the strainer and replace the filter element inside the tank after the first 50 hours of service. Refer to section 1.14.8 "Strainer cleaning procedure";
3. Change the return filter element, twice a year (after the first 50 hours). Refer to section section 1.14.7 "Filter element replacement procedure";
4. Ensure proper operation of the filler cap (Figure #1.84). Make sure the filler cap has no obstruction;
5. The hydraulic oil must be clean and not colored as well as in sufficient quantity (level at 3/4 of the oil level gage, with all cylinders retracted);

NOTE: THE WHOLE SYSTEM REQUIRES BETWEEN 50 TO 60 GALLONS OF OIL.

SADDLE-TYPE HYDRAULIC TANK

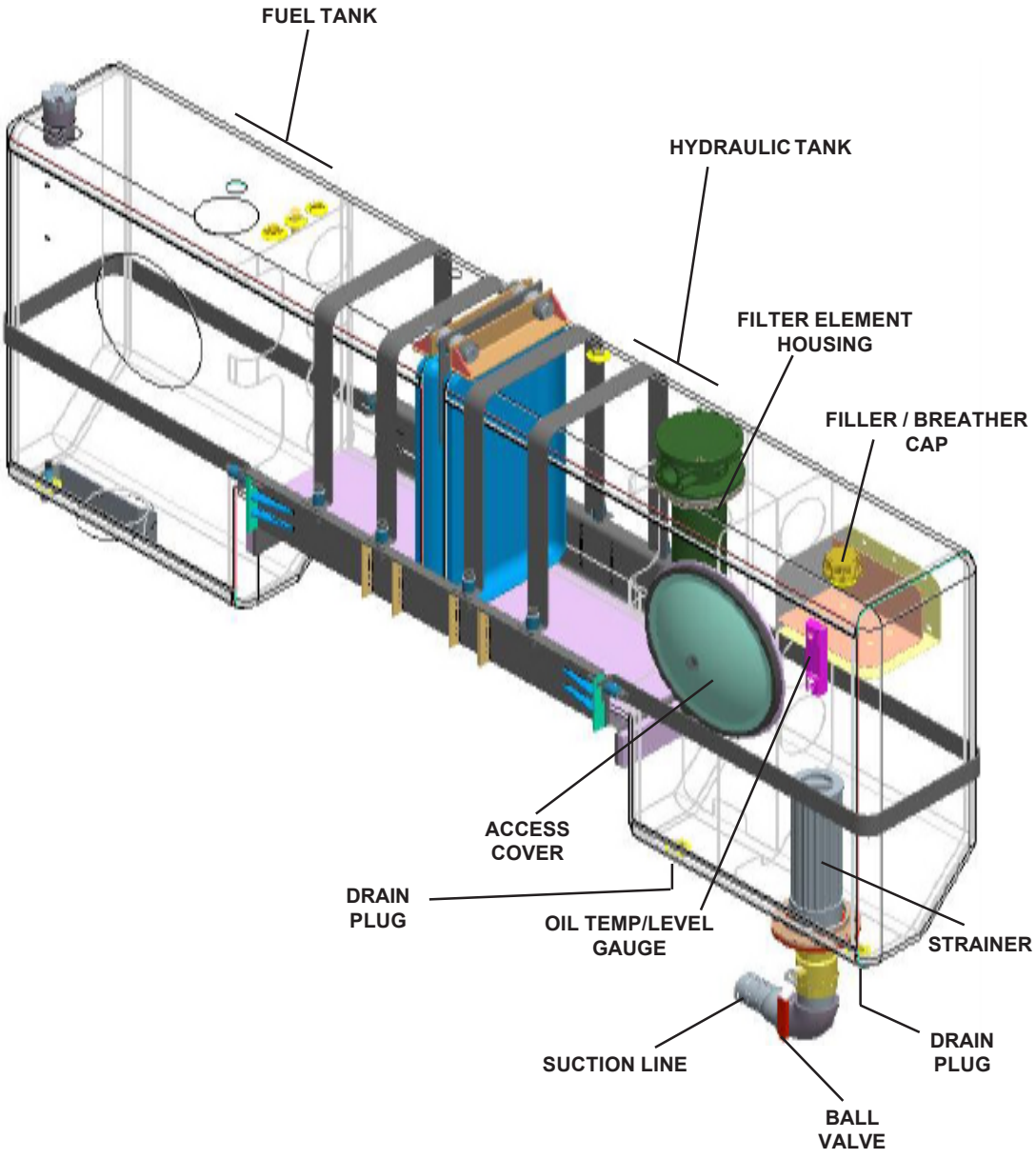


FIGURE #1.89

PRESSURIZED-TYPE HYDRAULIC TANK

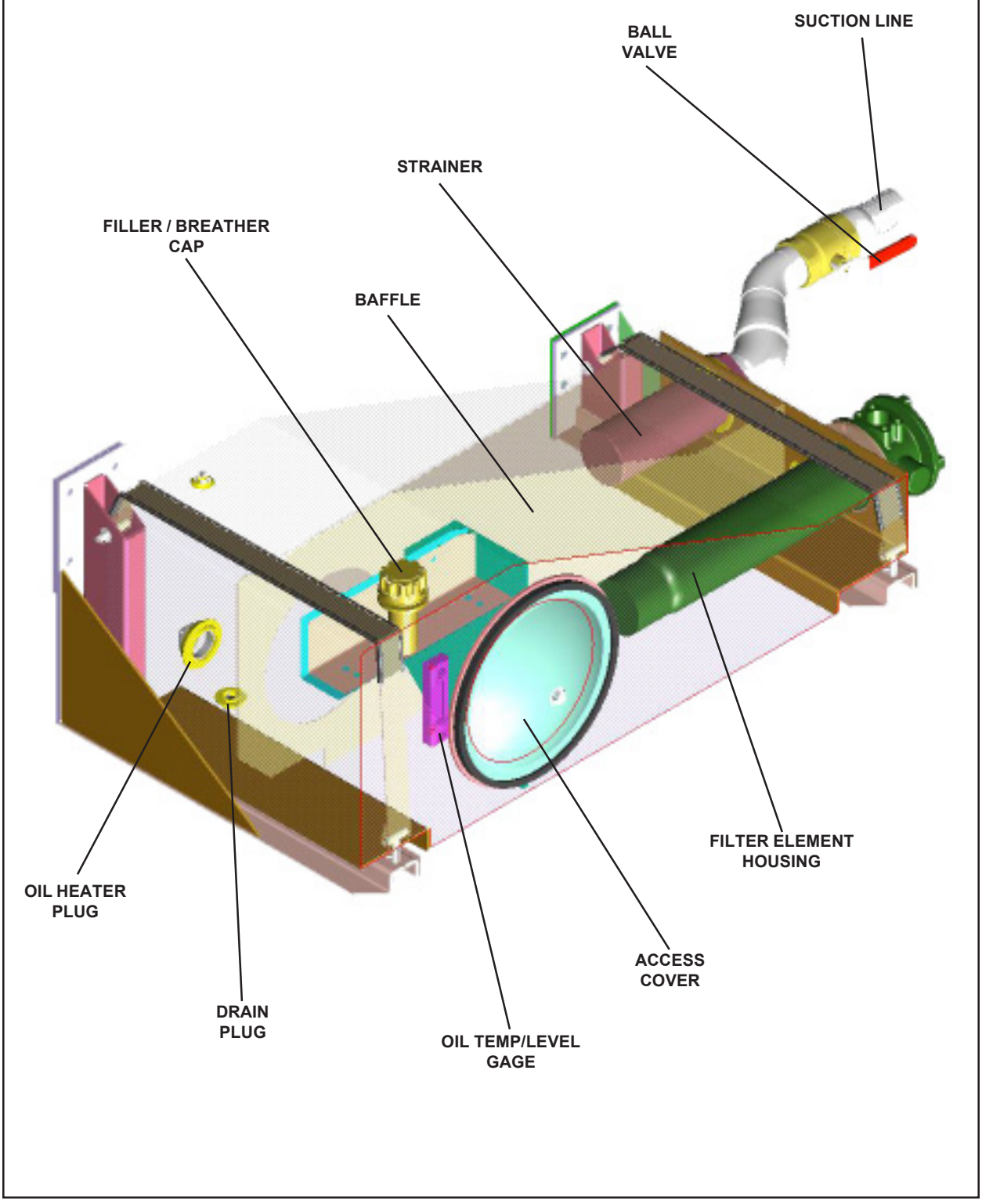


FIGURE #1.90

1.14.6 HYDRAULIC OIL REPLACEMENT PROCEDURE

HYDRAULIC OIL REPLACEMENT PROCEDURE

1. Start the engine, engage the hydraulic pump and disable the speed-up system;
2. Retract all cylinders (Packer, crusher panel, tailgate etc.);
3. Disengage the hydraulic pump and stop the engine;
4. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 “Lockout/ Tagout procedure”);
5. Clean around the filler cap and remove it. Be cautious; some hydraulic tanks are pressurized (3 to 5 PSI). Open slowly;
6. Use a clean container of at least 60 gallons to drop the old oil into;

WARNING

HIGHLY CONTAMINATED HYDRAULIC FLUID MUST BE CHANGED PROMPLY TO AVOID ANY DAMAGE ON THE HYDRAULIC SYSTEM.

WARNING

IT IS NOT RECOMMENDED TO MIX DIFFERENT BRAND NAMES AND/OR GRADES OF OIL IN THE SAME TANK.

HYDRAULIC OIL REPLACEMENT PROCEDURE (CONTINUES)

7. To drop the oil, remove the drain plug under the tank. Use a container with a minimum capacity of 60 US gallons to collect the oil;
8. Completely drain the tank;
9. Once emptied, reinstall the drain plug;
10. Remove and clean the strainer (Once a year);
11. Change the return filter element (twice a year);
12. Open the acces cover and clean the inside of tank of any metal prticles or debris that may have accumulated at the bottom;
13. Refill the tank until oil reaches the ¾ of the oil gage (Figure #1.88). Use a high quality oil, that has good performance in cold weather(if applicable), such as SHELL TELLUS T32 or equivalent (See section 2 “Lubrication” for specifications). The whole system will require between 50 and 60 gallons;
14. The oil must be clean and free of any dirt, metallic particles or sand etc.) The use of a filtering screen is strongly recommended while filling the tank with new oil.

1.14.7 FILTER ELEMENT REPLACEMENT PROCEDURE

To protect new components of the hydraulic system, the return filter element must be changed after the **first 50 hours** of operation of the vehicle. Then, change the element twice a year (see the preventive maintenance chart at the end of this section).

The filter restriction indicator located at front of the tank (Figure #1.91) will indicate if the filter requires to be changed. Replace the filter when the indicator is in the yellow zone, before it reaches the red zone. This will keep the oil clean, extend component life expectancy and reduce breakdowns.

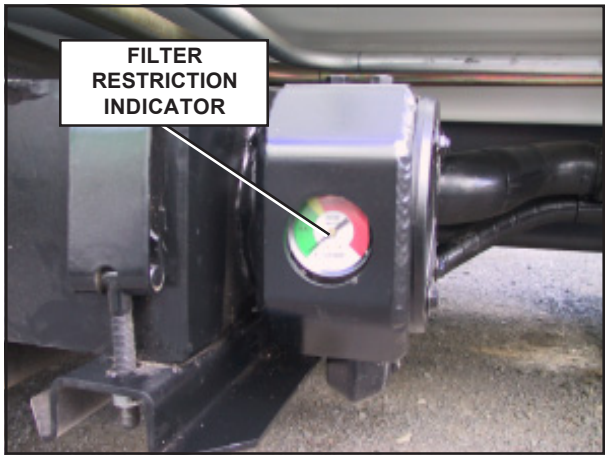


FIGURE #1.91

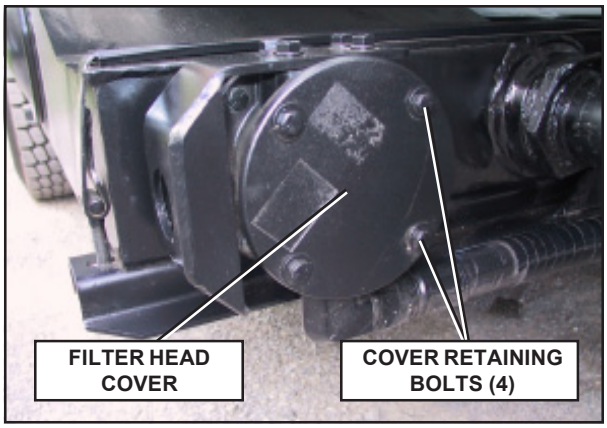


FIGURE #1.92

HYDRAULIC FILTER REPLACEMENT PROCEDURE

1. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 "Lockout/ Tagout procedure");
2. Prepare a pan or a bucket to retrieve oil that will spill out of the filter housing (2 gallons of oil);
3. Remove the four (4) bolts of the filter head cover of the hydraulic tank (Figure #1.92); This in-tank return filter system has a self-closing trap that is closing as you remove the cartridge therefore preventing the whole tank to empty itself.
4. Change the filter element with a new one (Figure #1.93);
5. Reinstall the filter head cover.

CAUTION

CHANGE RETURN FILTER ELEMENT AFTER THE FIRST 50 HOURS OF OPERATION.

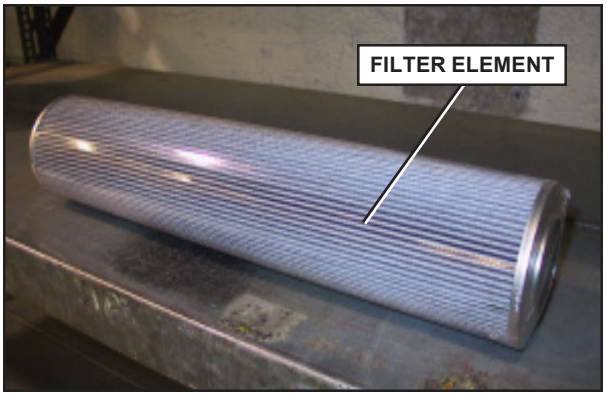


FIGURE #1.93

1.14.8 STRAINER CLEANING PROCEDURE

Strainer cleaning procedure depends on the type of hydraulic tank installed on the vehicle:

- **When cleaning the strainer on a pressurized hydraulic tank,** apply the *Strainer Cleaning Procedure on Pressurized Hydraulic Tanks* below (See Figure #1.98 for complete illustration);
- **When cleaning the strainer on a saddle-type hydraulic tank,** apply the apply the *Strainer Cleaning Procedure on Saddle-Type Hydraulic Tanks* detailed on the following pages (See Figure #1.103 for complete illustration).

STRAINER CLEANING PROCEDURE ON PRESSURIZED HYDRAULIC TANKS

1. Start the engine, engage the hydraulic pump;
2. Retract all cylinders (packer, crusher panel, tailgate etc.)
3. Raise the body and install the safety prop;
4. Disengage the hydraulic pump and turn off the engine;
5. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 “Lockout/ Tagout procedure”);
6. Clean around the filler cap;

PRESSURIZED HYDRAULIC TANK

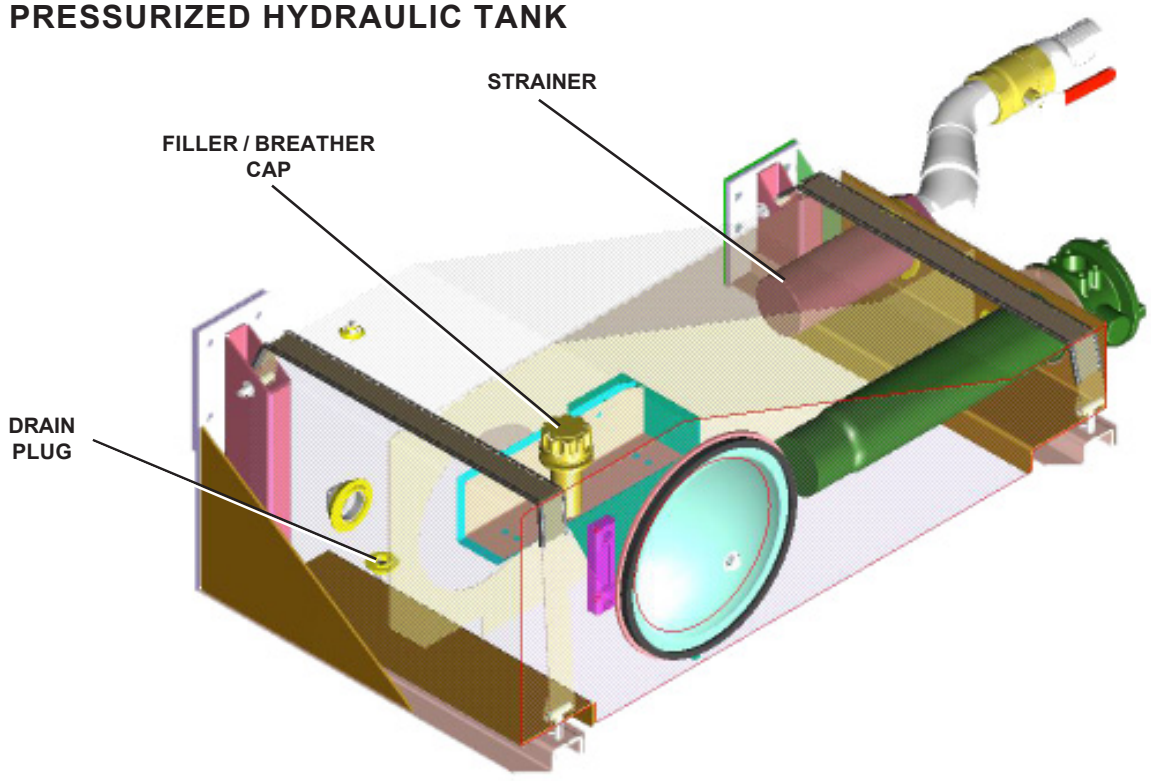


FIGURE #1.94

STRAINER CLEANING PROCEDURE ON PRESSURIZED HYDRAULIC TANKS (CONTINUES)

7. Slowly and carefully remove the filler cap;

DANGER

THIS TYPE OF HYDRAULIC TANK IS PRESSURIZED (3 TO 5 PSI). BE CAREFUL WHEN OPENING THE FILLER CAP.

STRAINER CLEANING PROCEDURE ON PRESSURIZED HYDRAULIC TANKS (CONTINUES)

8. Drain the hydraulic tank using the drain plug under the tank (Refer to section 1.14.6 “Hydraulic oil replacement procedure”);
9. Once the tank is empty, reinstall the drain plug;
10. Remove both hose clamps from the suction hose (Figure #1.95)

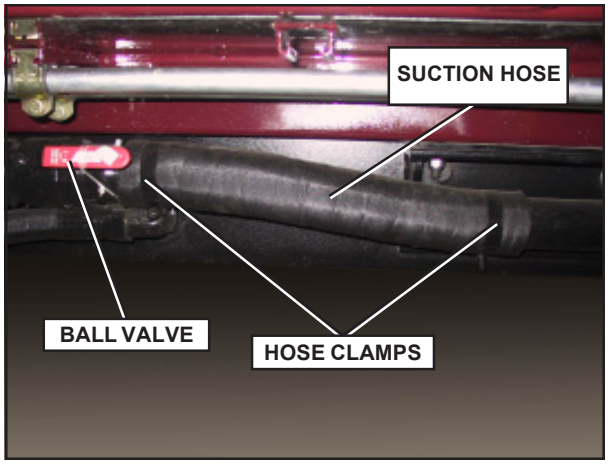


FIGURE #1.95

STRAINER CLEANING PROCEDURE ON PRESSURIZED HYDRAULIC TANKS (CONTINUES)

and slide the hose over the pipe until it clears the ball valve (slide towards the front of the vehicle);

11. Disconnect the swivel bulkhead of the pressure return hose to allow the ball valve assembly to turn freely when the strainer is loosened (Figure #1.96);
12. Remove the strainer from the tank port (Figure #1.97). The strainer has to be turned counterclockwise to be removed;

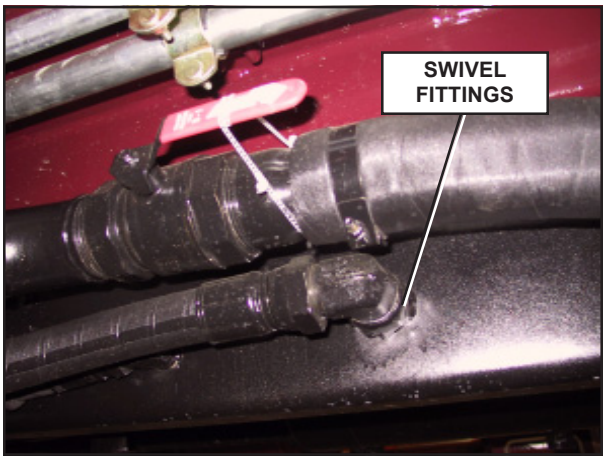


FIGURE #1.96

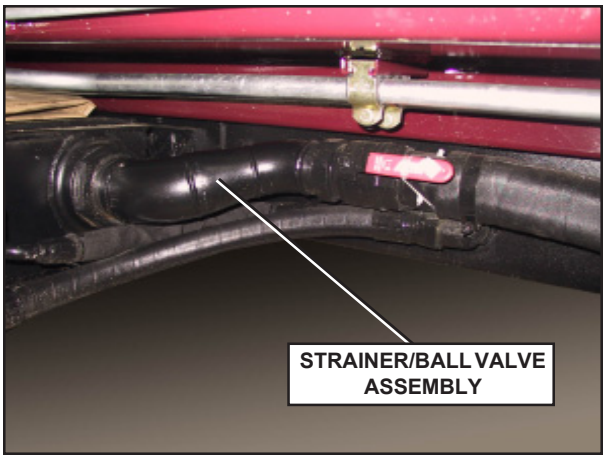


FIGURE #1.97

STRAINER REMOVAL ON PRESSURIZED HYDRAULIC TANKS

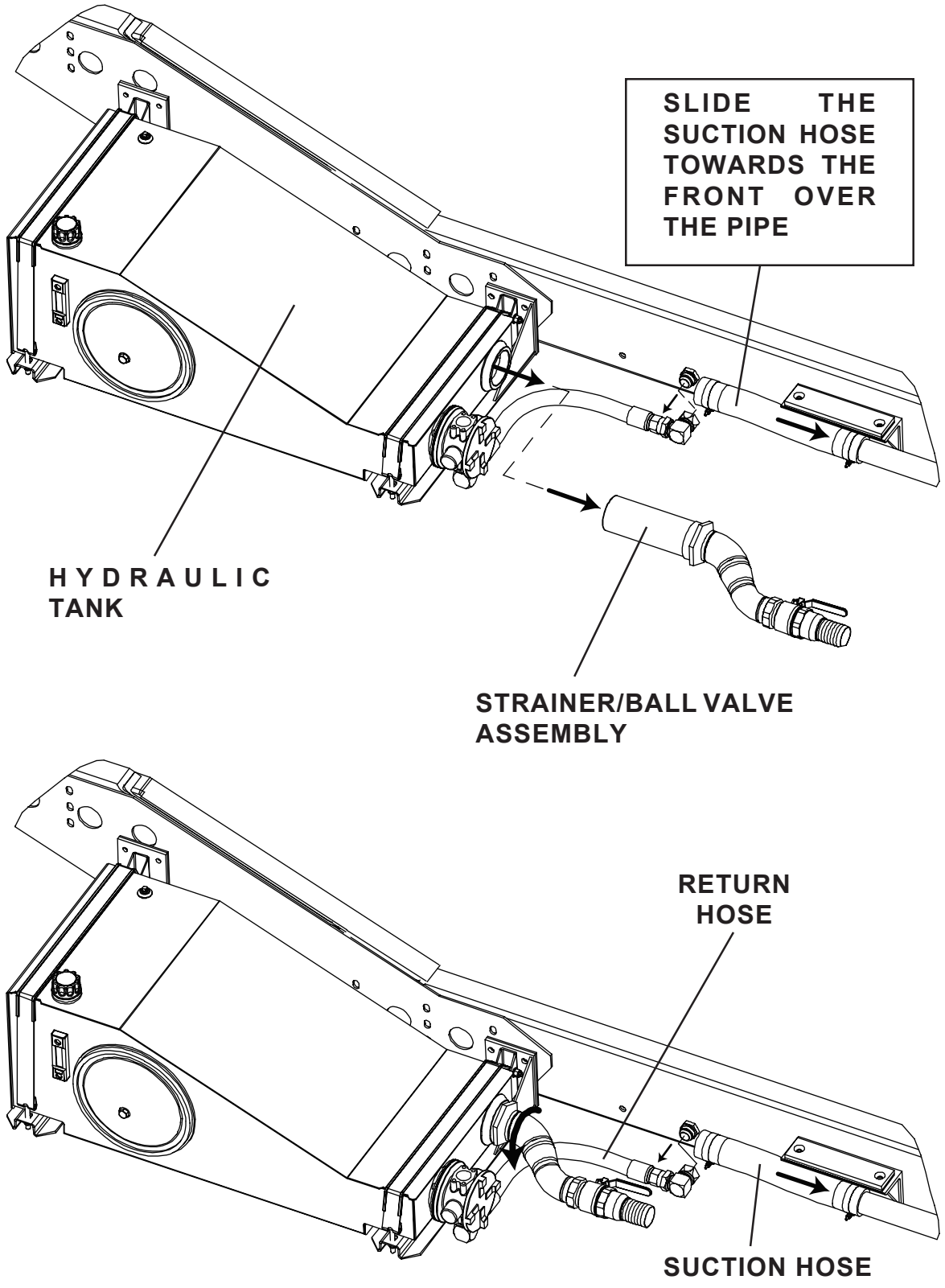


FIGURE #1.98

STRAINER CLEANING PROCEDURE ON PRESSURIZED HYDRAULIC TANKS (CONTINUES)

13. Once the strainer is removed, clean it using solvant, and inspect for damage; replace if necessary;
14. Apply thread seal compound on the strainer threads and re-install the strainer;
15. Refer to the hydraulic fluid replacement procedure for filling up the tank and ensure there is no leak.

STRAINER CLEANING PROCEDURE ON SADDLE-TYPE HYDRAULIC TANKS

1. Start the engine, engage the hydraulic pump;
2. Retract all cylinders (packer, crusher panel, tailgate, etc.)
3. Raise the body and install the safety prop;
4. Disengage the hydraulic pump and turn off the engine;
5. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 “Lockout/ Tagout procedure”);

SADDLE-TYPE HYDRAULIC TANK

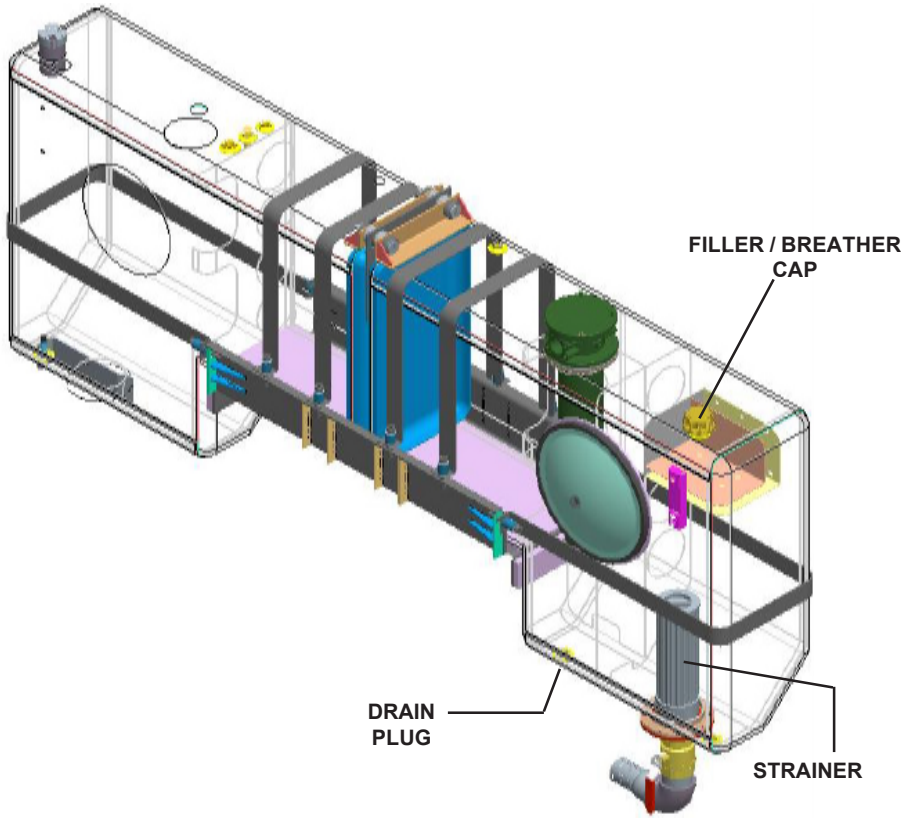


FIGURE #1.99

STRAINER CLEANING PROCEDURE ON SADDLE-TYPE HYDRAULIC TANKS (CONTINUES)

6. Clean around the filler cap;
7. Slowly and carefully remove it;
8. Drain the hydraulic tank using the drain plug under the tank (Refer to section 1.14.6 “Hydraulic oil replacement procedure”);
9. Once emptied, reinstall the drain plug;
10. On the flexible suction hose, remove the clamp nearest to the ball valve and pull the hose off;
11. Remove the bolts of the flange mounted on the bottom of the tank;
12. Take the flange off the bottom of the tank and mount it on a vise;
13. Unscrew the strainer from the flange;
14. Remove the strainer from the tank port (Figure #1.101). The strainer has to be turned counterclockwise to be removed;
15. Once the strainer is removed, clean it using solvant, and inspect for damage; replace if necessary;
16. Apply thread seal compound on the strainer threads and re-install the strainer;
17. Refer to the hydraulic fluid replacement procedure for filling up the tank and make sure there is no leak.

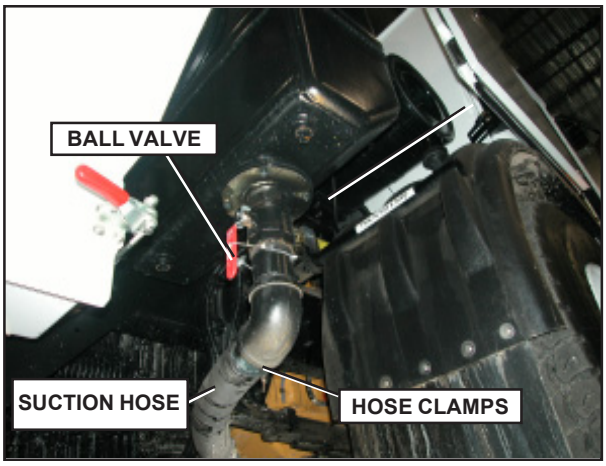


FIGURE #1.100

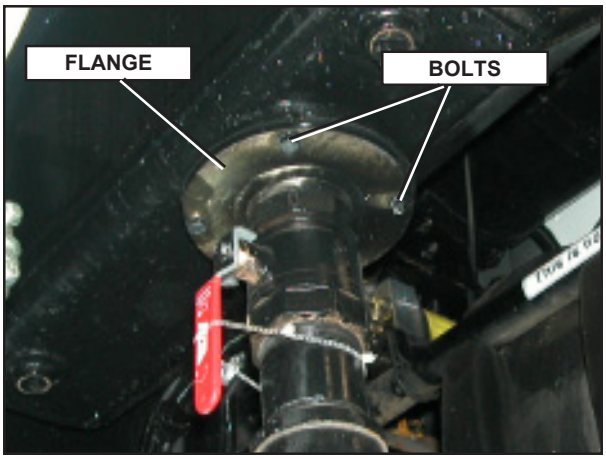


FIGURE #1.101

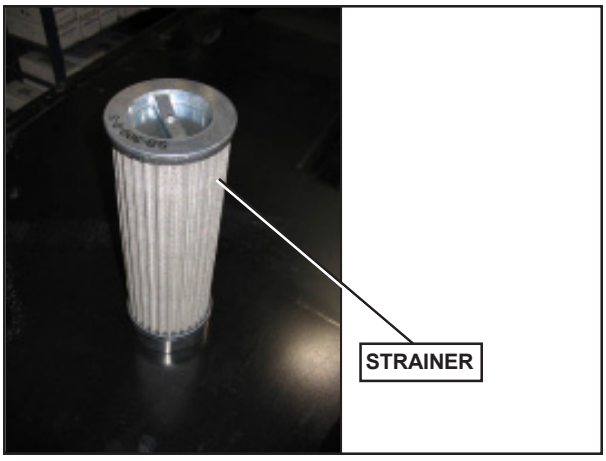


FIGURE #1.102

STRAINER REMOVAL

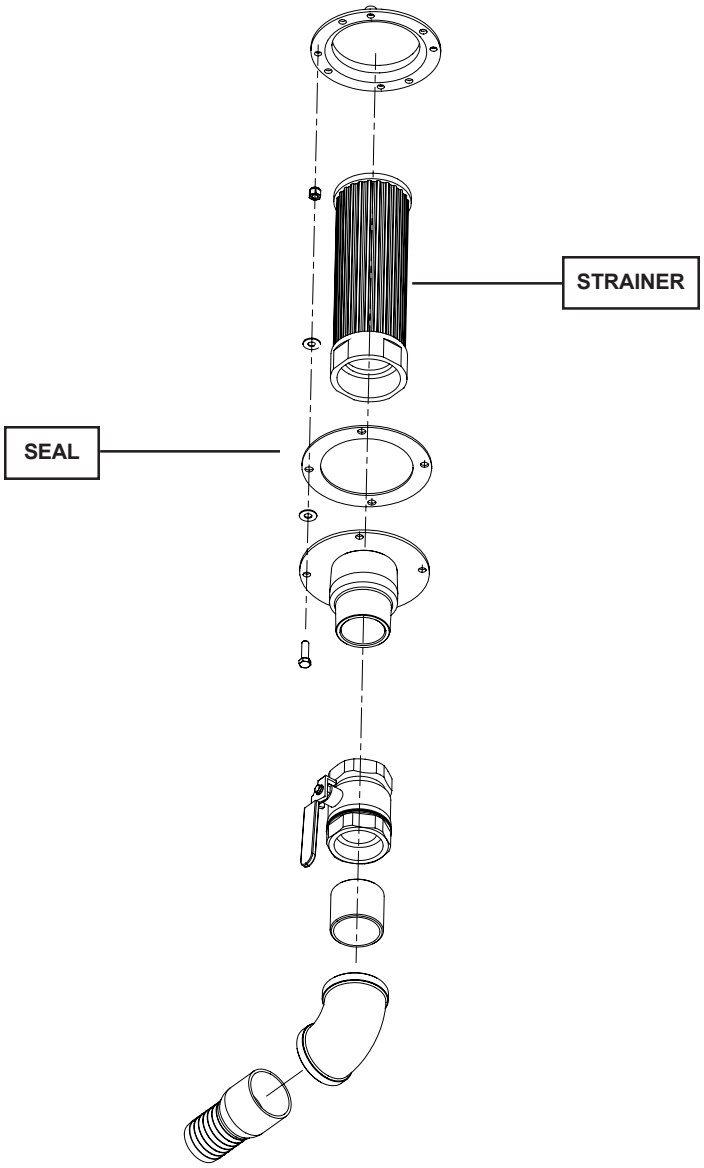


FIGURE #1.103

1.15 HYDRAULIC VANE PUMP SYSTEMS

NOTE: FOR UNITS BUILT BEFORE YEAR 2001 OR USING AN HYDRAULIC GEAR PUMP, REFER TO SECTION 1.16 "HYDRAULIC GEAR PUMP SYSTEMS"

Since 2001, the Expert 2000™ side loader is offered with a new vane type hydraulic pump (unless otherwise specified: gear pumps are still available as an option). This new pump has greater efficiency therefore can be used at only 1200 RPM compared to 1500 RPM with the gear pump. This results in more fuel economy and less noise which increases operator safety. It also can achieve higher pressure settings (3000 PSI).

The new vane pump (Figure #1.104) is a constant drive pump linked with the engine crank shaft. It uses an electric solenoid dump valve (Figure #1.105) to send the hydraulic flow either to the system or back to the tank when not in use. The dump valve limits the flow to 45 gallons per minute. The pump switch (PTO) found on the console (Figure #1.106) controls this dump valve.

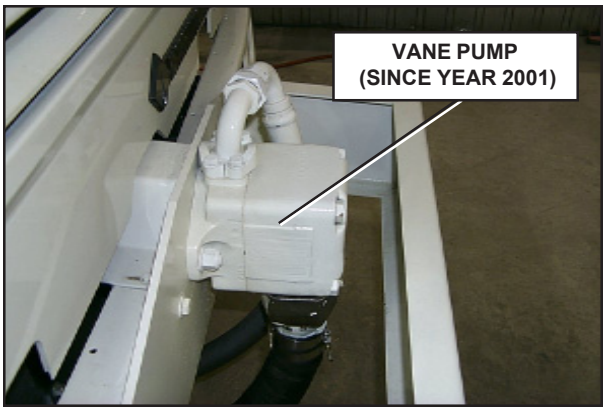


FIGURE #1.104

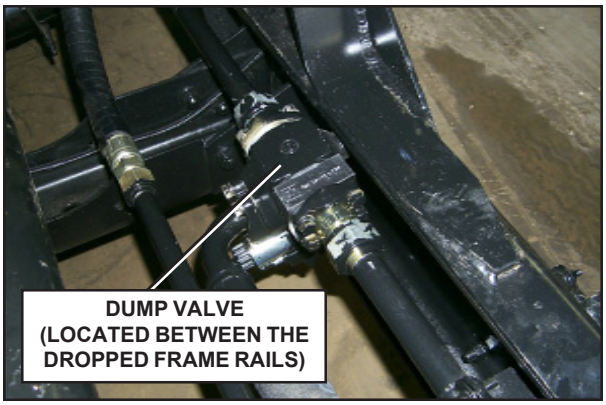


FIGURE #1.105

FIGURE #1.106

1.15.1 DUMP VALVE PRESSURE ADJUSTMENT

Adjustable dump valves are provided with a safety relief cartridge. This cartridge requires to be adjusted 10% higher than the system pressure, therefore 3300 PSI. It also requires to be adjusted before the main relief valve.

NOTE: TWO PERSONS ARE REQUIRED TO ADJUST THE DUMP VALVE.

DUMP VALVE ADJUSTMENT PROCEDURE

1. Hook a 0-4000 PSI pressure gage on the quick connect located on the hydraulic valve (Figure #1.107);
3. Start the engine, engage the hydraulic system;
4. Raise the body until clearing the safety prop;
5. Lower the safety prop into position under the body(Figure #1.108);
6. Lower the body on the prop;
7. Locate the dump valve inside the right-hand side frame rail (Figure #1.109);
8. Completely loosen the dump valve adjustment screw, removing the lock nut and using the proper hex key (Figure #1.109);

DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

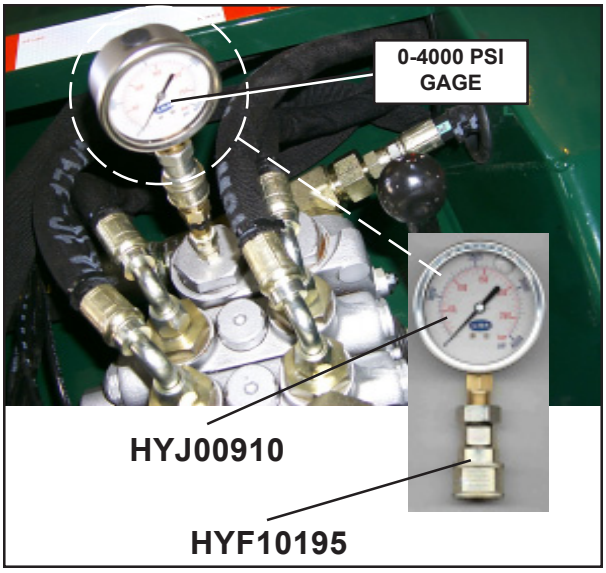


FIGURE #1.107

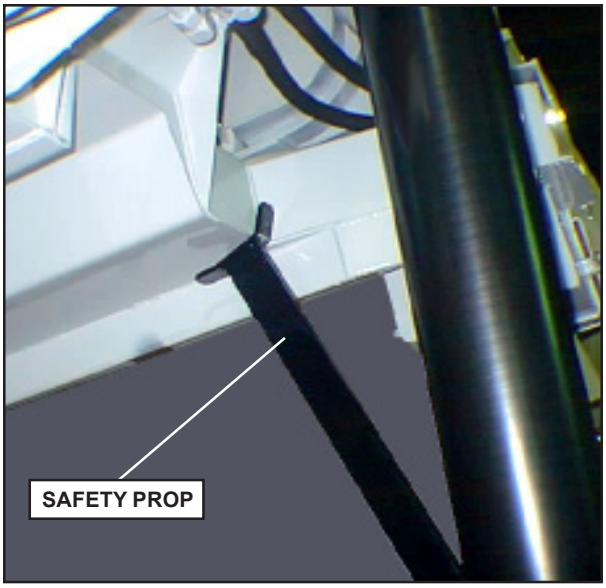


FIGURE #1.108

DUMP VALVE ADJUSTMENT PROCEDURE (CONTINUES)

9. Completely thighten the main relief valve (Figure #1.110) using the proper hex key;
10. Turn on the speed-up system on the packer control station (Figure #1.111): Engine must be running at 1200 RPM before checking the pressure (See pressure adjustment table);
11. Activate the crusher panel until the cylinder reaches the end of its stroke (Going up);
12. Adjust the dump valve at 3300 PSI or 2300 PSI (refer to pressure adjustment table);
13. Lock the dump valve screw in place, then the main relief;
14. Readjust the main relief according to pressure table in section 1.15.2.

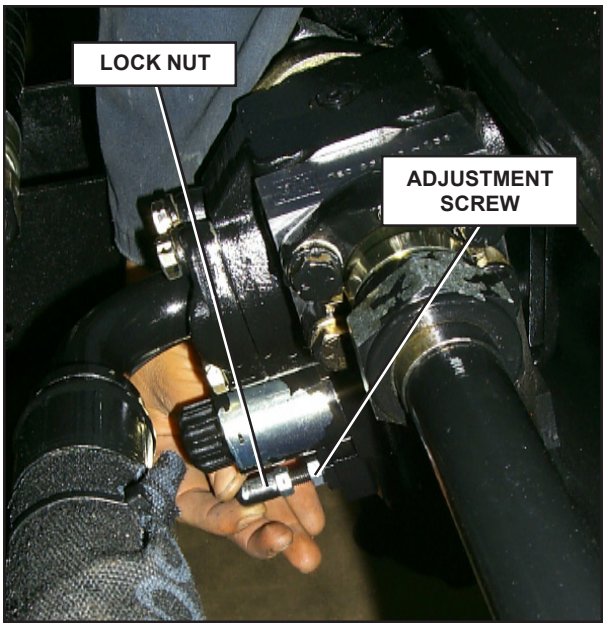


FIGURE #1.109

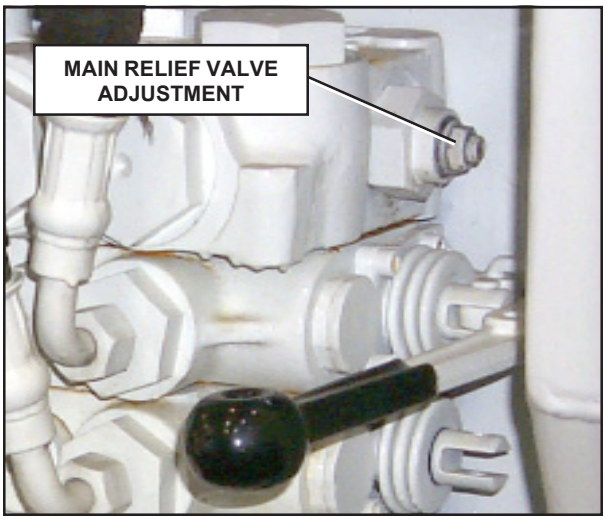


FIGURE #1.110

FIGURE #1.111

1.15.2 MAIN RELIEF VALVE PRESSURE ADJUSTMENT (VANE PUMP SYSTEMS)

NOTE: MAKE SURE TO PERFORM THE "DUMP VALVE PRESSURE ADJUSTEMENT" PROCEDURE, SECTION 1.15.1, PRIOR TO MAKE ANY ADJUSTMENT ON THE MAIN RELIEF VALVE.

It is recommended to verify the pressure setting **once every month** in order to prevent damage to the equipment and to make sure it operates as efficiently as posssible. (i.e: keeping a good packing capacity). If the pressure is not at the recommended setting, both the dump valve and the main relief valve have to be readjusted.

Refer to the the pressure adjustment table for proper settings according to the type of chassis and packer cylinder size.

Each of the hydraulic valve sections operates at a different pressure setting. Some are using a fixed work port relief (Figure #1.112) and some others use system pressure. For details, refer to the Hydraulic system schematic in section 3.22.

CAUTION

DO NOT ADJUST THE MAIN RELIEF VALVE HIGHER THAN RECOMMENDED. THIS COULD DAMAGE THE PUMP AND OTHER COMPONENTS AND VOID THE WARRANTY.

Starting from the top of the valve stack:

Crusher panel:

Down:	System pressure*
Up:	System pressure*

Tailgate:

Down:	System pressure*
Up:	System pressure*

Packer:

Extend:	System pressure*
Retract:	Work port relief at 1500 PSI at idle speed (to prevent shocks when packer changes direction)

Hoist:

Down:	To tank
Up:	Work port relief at 1700 PSI at idle speed

*See table.

NOTE: WORK PORT RELIEF CARTRIDGES ARE FIXED AND DO NOT NEED ADJUSTMENT. IF PRESSURES DIFFER FROM THOSE ABOVE BY + OR – 100 PSI, REMOVE AND CLEAN THE CARTRIDGES OR REPLACE THEM IF NECESSARY.

DANGER

APPLY THE LOCKOUT / TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

PRESSURE ADJUSTMENT PROCEDURE

1. Start the engine, engage the hydraulic system;
2. Using the selector switch on the console, select the right-hand side packer control station (Figure #1.113). This switch exists only on vehicles equipped with multiple packer control stations;
3. Make sure the speed-up inhibitor on the console is set to “Enable”;
4. Turn on the speed-up system (Bunny button) on the packer control station: Engine must be running at 1200 RPM before checking the pressure (See pressure adjustment table);
5. Hook a 0-4000 PSI pressure gage on the quick connect located on the hydraulic valve (Figure #1.114);
6. Raise the crusher panel until it reaches the end of its stroke. Hold the lever in order to make the pressure to build up in the system;
7. Check the pressure at the same time on the pressure gage;
8. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 “Lockout/ Tagout procedure”);

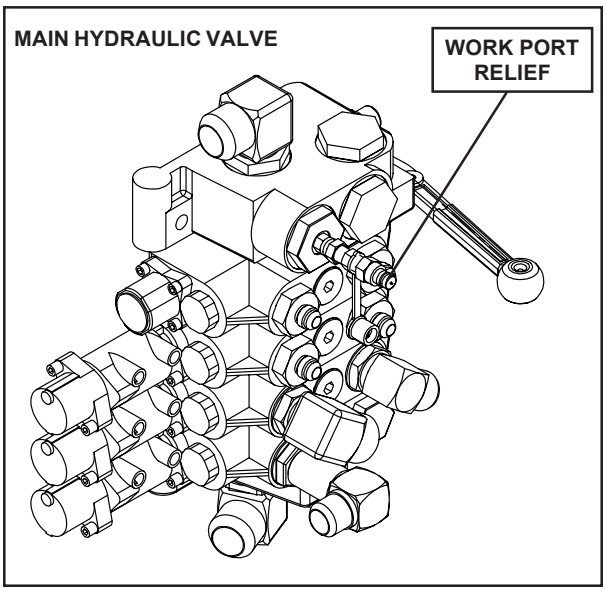


FIGURE #1.112

FIGURE #1.113

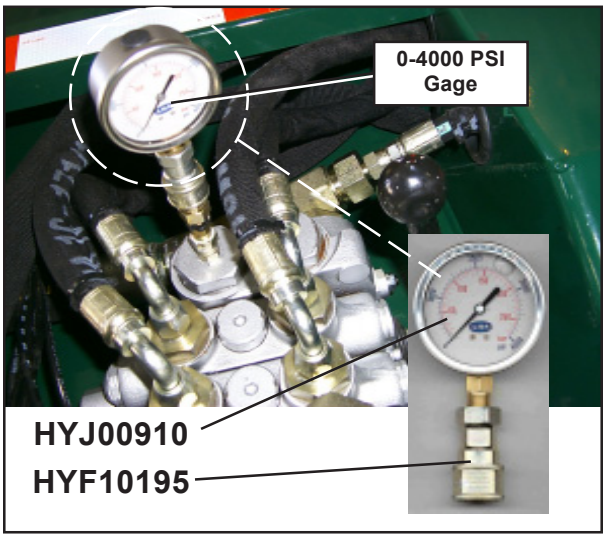


FIGURE #1.114

PRESSURE ADJUSTMENT PROCEDURE

9. Adjust the main relief if necessary (Figure #1.115) by loosening the lock nut and turning the adjustment screw clockwise to increase the pressure or the other way to reduce it;
10. When finished, hold the adjustment crew and tighten the lock nut.

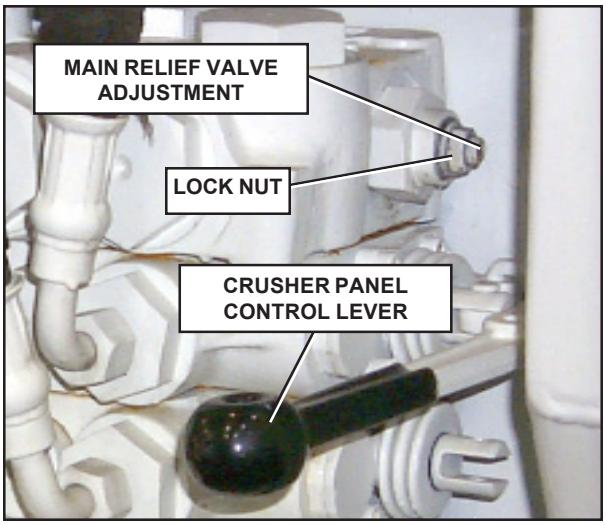


FIGURE #1.115

PRESSURE ADJUSTMENT TABLE				
PUMP	**CHASSIS**	**CYLINDER BORE (PACKER)**	**MAIN RELIEF PRESSURE (±50 PSI)**	**DUMP VALVE PRESSURE (±50 PSI)***
VANE PUMP (Units built after 2001)	6x4	4”	3000 PSI@1200RPM	3300 PSI@1200RPM
	4X2	4”	2000 PSI@1200RPM	2300 PSI@1200RPM

*If equipped with a dump valve.

1.16 HYDRAULIC GEAR PUMP SYSTEMS

NOTE: FOR UNITS BUILT AFTER YEAR 2001 OR USING AN HYDRAULIC VANE PUMP, REFER TO SECTION 1.15 "HYDRAULIC VANE PUMP SYSTEMS".

Expert 2000™ side-loading units manufactured in 2001 and before are offered with a gear type hydraulic pump. This type of system requires the engine to run at 1500 RPM for the packing operation. The main pressure setting is 2000 PSI.

The gear pump is a constant drive pump linked with the engine crank shaft. It uses an air operated "dry valve" which cuts the flow of oil going to the pump; allowing only a sufficient amount of oil to keep the pump lubricated (Figure #1.116).

When the pump is not being used (dry mode), to permit the circulation of the oil, a special return line on which a pressure compensated flow control is installed allows the oil to go back to the tank without having to go through the entire system.

When the "dry valve" is open (wet mode), the flow going through that special return line is limited to 2 GPM by the pressure compensated flow control. This is so that the oil does not use this path and goes through the system.

At the outlet of the pump, a flow regulator (Figure #1.117) is mounted to limit the main flow to a maximum of 60 GPM.

It is recommended to remove and clean this regulator once a year to ensure that it moves freely or when noisy or generating heat.

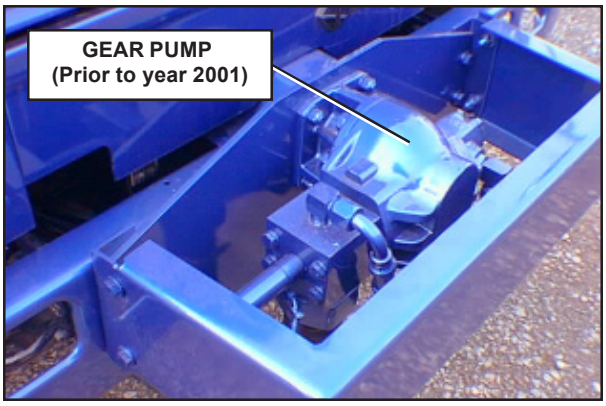


FIGURE #1.116

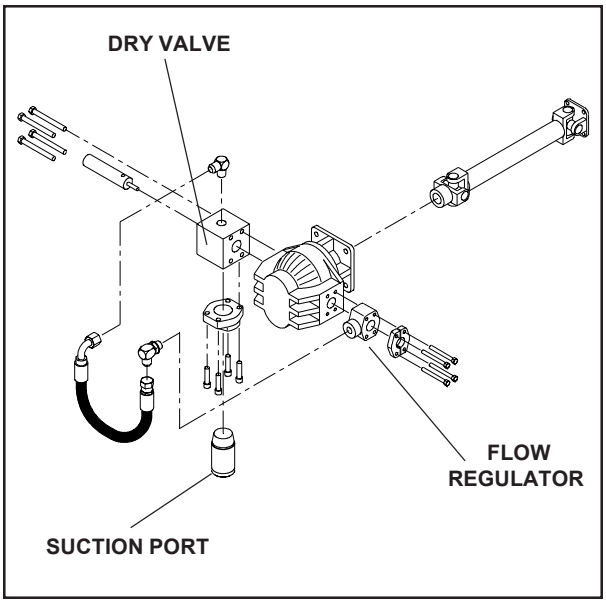


FIGURE #1.117

1.16.1 GEAR PUMP INSPECTION PROCEDURE

If the pump is adequately maintained, it will provide a satisfactory output. If the pump is noisy, carry out the following inspections:

THE RETURN PRESSURE OF THE OIL FLOW FROM THE PUMP TO THE RESERVOIR MUST NOT EXCEED 20 PSI. The PTO switch "ON" and the engine running, the vacuum in the suction line should not exceed 5 inches of mercury.

PUMP INSPECTION PROCEDURE

1. Make sure the parking brake is applied;
2. Start the engine, engage the hydraulic pump;
3. The pump should turn freely without any excessive noise or vibrations;
4. Make sure the vehicle is tagged out for maintenance purposes (refer to the section 1.5 "Lockout/ Tagout procedure");
5. Inspect the connections and underneath the pump for any oil leak;
6. If any electrical problem would occur with the pump, refer to section 3.4 "Pump Troubleshooting";
7. If the pump is noisy (when the pump switch is turned "OFF"), remove the flow control valve and clean it (Figure #1.118).

1.16.2 MAIN RELIEF VALVE PRESSURE ADJUSTMENT (GEAR PUMP SYSTEMS)

It is recommended to verify the pressure setting **once every month** in order to prevent damage to the equipment and to make sure it operates as efficiently as posssible (i.e : keeping a good packing capacity). If the pressure is not at the recommended setting, the main relief valve have to be readjusted. Refer to the the pressure adjustment table for proper settings according to the type of chassis and packer cylinder size.

All of the hydraulic valve sections operate at the same pressure setting which is 2000 PSI except for the packer retract line. This line uses a fixed work port relief set at 1500 PSI to prevent shocks when packer changes direction. For details, refer to the Hydraulic system schematic in section 3.21 and 3.22.

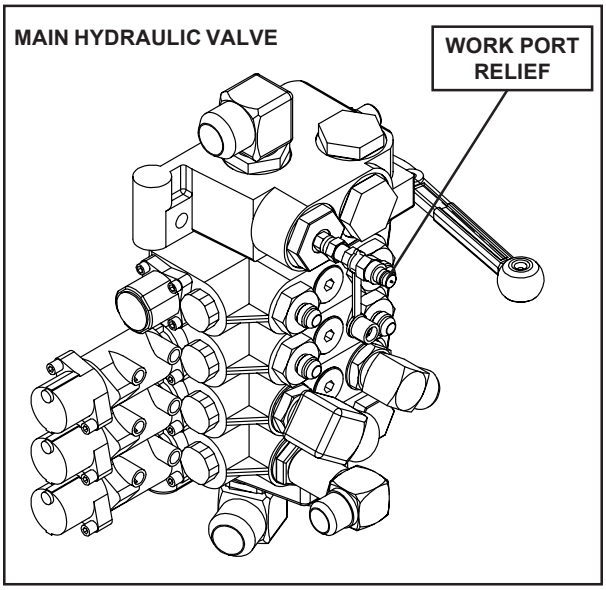


FIGURE #1.118

NOTE: THE WORK PORT RELIEF CARTRIDGE IS FIXED AND DOES NOT NEED ADJUSTMENT. IF THE PRESSURE DIFFER FROM 1500 PSI BY + OR – 100 PSI WHEN THE PACKER REACHES THE END OF THE STROKE WHEN RETURNING, REMOVE AND CLEAN THE CARTRIDGE OR REPLACE IT IF NECESSARY.

⚠ CAUTION

DO NOT ADJUST THE MAIN RELIEF VALVE HIGHER THAN RECOMMENDED. THIS COULD DAMAGE THE PUMP AND OTHER COMPONENTS AND VOID THE WARRANTY.

PRESSURE ADJUSTMENT PROCEDURE

1. Make sure the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 "Lockout/ Tagout procedure");
2. Start the engine, engage the hydraulic pump;
3. Using the selector switch on the console, select the right-hand side packer control station (Figure #1.119). This switch exists only on vehicles equipped with multiple packer control stations;

⚠ DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

FIGURE #1.119

PRESSURE ADJUSTMENT PROCEDURE (CONTINUES)

4. Make sure the speed-up inhibitor on the console is set to “Enable” (Figure #1.121);
5. Turn on the speed-up system (Bunny button) on the packer control station (Figure #1.120): Engine must be running at 1500 RPM before checking the pressure (See pressure adjustment table);
6. Hook a 0-4000 PSI pressure gage on the quick connect located on the hydraulic valve (Figure #1.122);
7. Raise the crusher panel until it reaches the end of its stroke. Hold the lever in order to make the pressure to build up in the system;

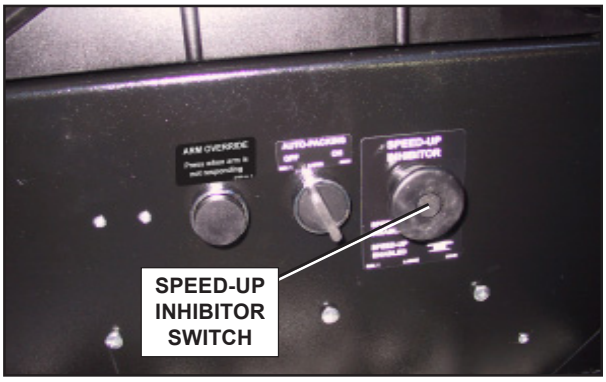


FIGURE #1.120

FIGURE #1.121

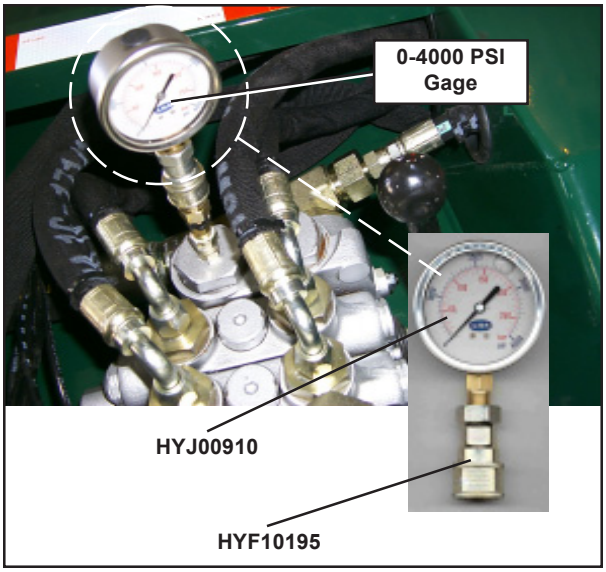


FIGURE #1.122

PRESSURE ADJUSTMENT PROCEDURE (CONTINUES)

8. Check the pressure at the same time on the pressure gage;
9. Adjust the main relief if necessary (Figure #1.123) by loosening the lock nut and turning the adjustment screw clockwise to increase the pressure or the other way to reduce it;
10. When finished, hold the adjustment crew and tighten the lock nut.

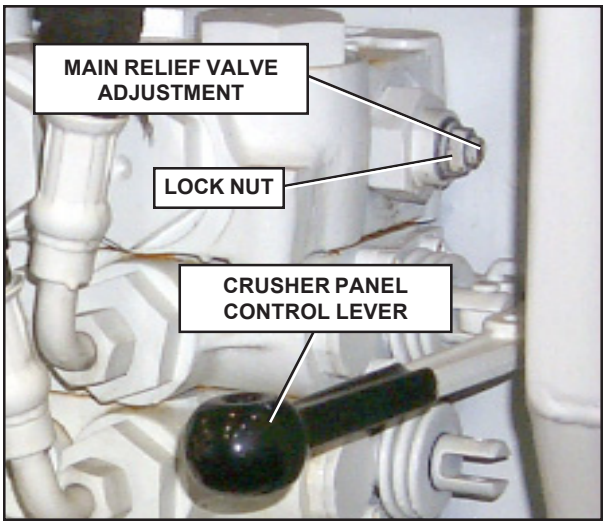


FIGURE #1.123

PRESSURE ADJUSTMENT TABLE

PUMP	CHASSIS	CYLINDER BORE (PACKER)	MAIN RELIEF PRESSURE (±50 PSI)
GEAR PUMP (Units built before 2001)	6x4	5”	2000 PSI@1500RPM
	4X2	4”	2000 PSI@1500RPM

1.17 PRIMING A NEW PUMP

To prevent cavitation or air in the hydraulic system after installing a new pump or even when flushing the hydraulic system, make sure to prime the pump before starting the engine. Apply the following procedure for any new installed pump.

DANGER

APPLY THE LOCKOUT/TAGOUT PROCEDURE AT ALL TIMES WHEN MAINTENANCE OR INSPECTION IS CARRIED OUT ON THE VEHICLE.

HYDRAULIC PUMP PRIMING PROCEDURE

1. Ensure that the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 “Lockout/ Tagout procedure”);
2. With the ball valve closed (Figures #1.125 & #1.126), fill the suction line before installing it on the pump;
3. Fill the pump housing with new oil;
4. Reinstall the pressure hose on the pump housing;
5. Open the ball valve on the suction line;
6. Crank the engine without letting it start repeatedly about five times in order to fill the suction hose and the pump with hydraulic oil and to push the air back into the tank;
7. Then start the engine and make sure that the pump does not make excessive noise;
8. Before putting back the vehicle in service, recalibrate the system pressures according to section 1.15.1 and section 1.15.2 For units equipped with vane pump or section 1.16.2 for units equipped with gear pump.

FIGURE #1.124

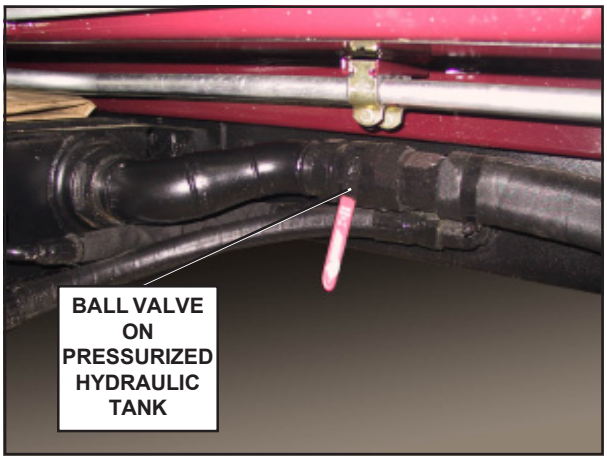


FIGURE #1.125

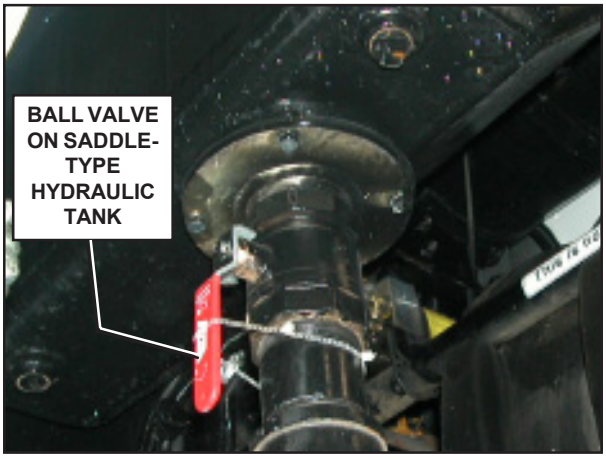


FIGURE #1.126

1.18 BODY HOIST REPLACEMENT PROCEDURE

BODY HOIST REPLACEMENT PROCEDURE

1. Ensure that the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 "Lockout/ Tagout procedure");
2. Remove the locknut at the top of the cylinder cover (Figure #1.127);
3. Start the engine and engage the hydraulic pump;
4. Lift the body to get enough space to lower the safety prop under the body (Figure #1.128);
5. Install the safety prop and using a lifting device secure the cylinder to prevent the cylinder from tilting on the cab or falling onto the chassis;

TOP OF THE BODY HOIST

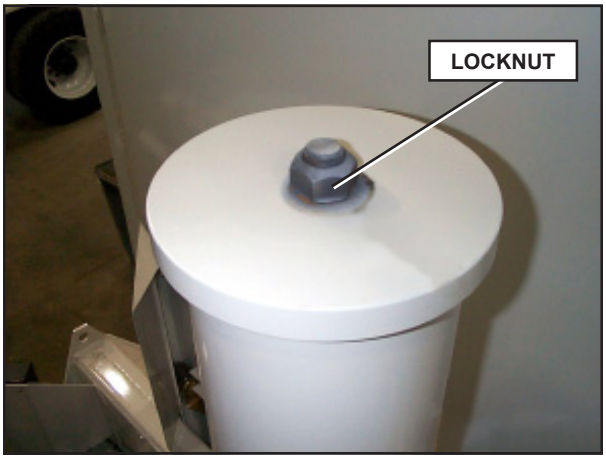


FIGURE #1.127

DANGER

DO NOT USE THE SAFETY PROP WITH A LOADED BODY. UNLOAD THE BODY PRIOR DOING ANY REPAIRS.

FIGURE #1.128

BODY HOIST REPLACEMENT PROCEDURE (CONTINUES)

6. Start the engine, engage the hydraulic system and lower the body cylinder using the lever on the console;
7. Disengage the hydraulic system and stop the engine;
8. Disconnect the hydraulic fitting (Figure #1.129);
9. Remove the cylinder base pillow blocks (Figure #1.130);
10. Replace the cylinder;
11. Reinstall the cylinder base pillow blocks on both sides and reconnect the hydraulic hose;
12. Start the engine and engage the hydraulic pump;
13. Slowly raise the cylinder until it reaches the top of the cover where the lock nut will be tightened.

NOTE: THE COVER MUST BE ALIGNED WITH THE THREADED ROD AT THE TOP END OF THE CYLINDER;

BODY HOIST REPLACEMENT PROCEDURE (CONTINUES)

14. When the threaded rod passes through the cover, install the locknut;
15. Lubricate the cover and the base pillow blocks (Figures #1.130 & #1.131);
16. Lift the body, store the safety prop and check for proper operation.

DANGER

PERIODICALLY CHECK THE CONDITION OF THE HOIST CYLINDER GLANDS. OVER TIME, THESE GLANDS CAN LOOSEN AND MAY CAUSE SUDDEN DROPPING OF THE BODY. IF THE GLANDS LOOSEN, TIGHTLY SCREW THEM BACK.

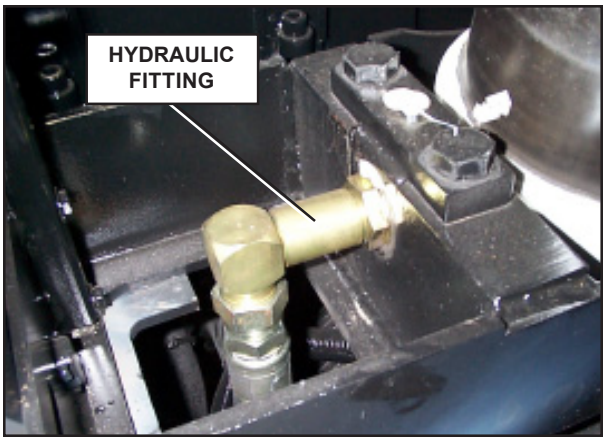


FIGURE #1.129

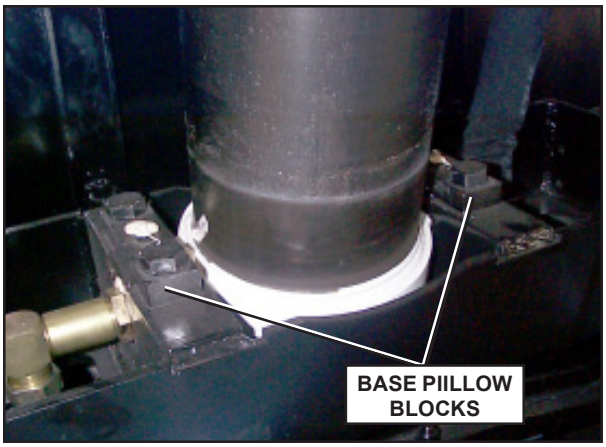


FIGURE #1.130

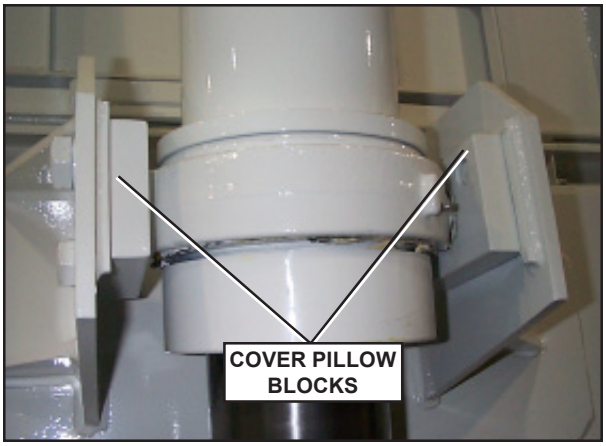


FIGURE #1.131

1.19 SPEED-UP SYSTEM MAINTENANCE

An electronic speed-up system si available on Expert 2000™ units equipped with an electronic engine. There are no mechanical components that require maintenance, since electronic signals from the engine are switched by one (1) or two (2) relays (depending on the engine used), located and identified inside the console (Refer to section 3.11 ”Speed-up troubleshooting” for further details).

1.20 AIR SYSTEM MAINTENANCE

Air system is crucial for the brakes to operate with maximum efficiency. All air tanks on the chassis must be drained after each working day.

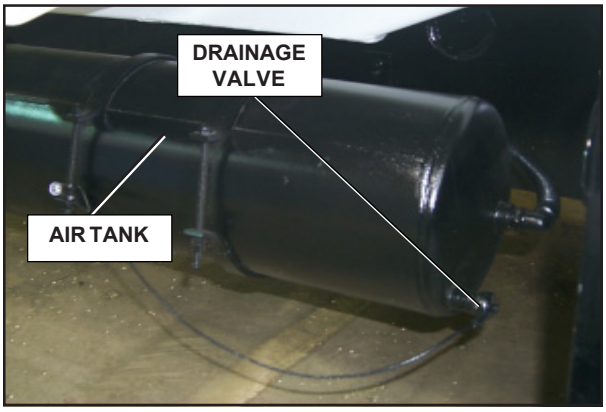


FIGURE #1.132

Some units are equipped with an air dryer and/or alcohol evaporator (Figure #1.132). These devices are used to reduce water in the air system, preventing air components to rust or to freeze in cold weather.

To perform maintenance on the air dryer and alcohol evaporator, refer to the chassis manufacturer maintenance manual.

The main hydraulic valve which controls the body functions, is activated by air actuators (Figure #1.133). When the tailgate or body lever on the console is moved, air pressure passing through the lever will activate the corresponding air actuator on the main valve; resulting in a movement of the hydraulic spool inside the valve.

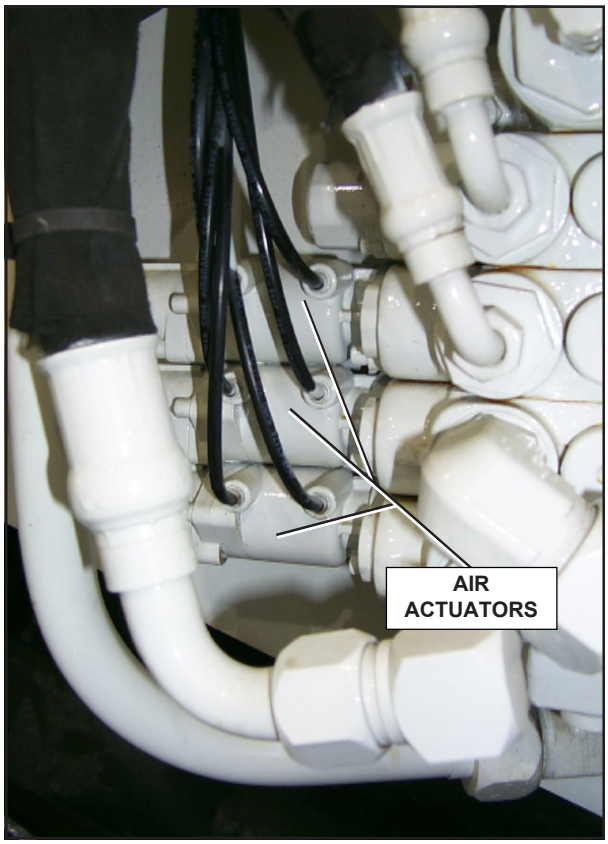


FIGURE #1.133

The same thing occurs when the packer is activated; when pressing the green button on the packer control station, an electric signal is sent to the air-valve that controls the actuator on the main hydraulic valve. Refer to Air System section for air diagrams.

At the end of each day, bleed the water from the air filter bowl located on the cab console (Figure #1.134). Unscrew the drain cock and using a small rag in hand, collect the water that will come out. This water trap helps keep residual moisture out of the air system.

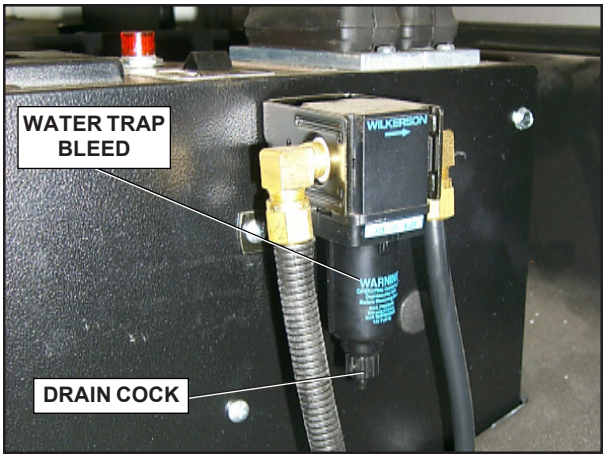


FIGURE #1.134

FIGURE #1.135

DANGER

USE APPROPRIATE "LOCKOUT/TAGOUT" PROCEDURE AT ALL TIMES.

To avoid affecting control of packer or other system on the vehicle (especially under cold weather conditions), apply the following procedure:

AIR SYSTEM MAINTENANCE PROCEDURE

1. Ensure that the parking brake is applied and the vehicle is tagged out for maintenance purposes (refer to the section 1.5 "Lockout/Tagout procedure");
2. Drain all air tanks daily;
3. On this type of equipment the compressor works all the time (frequent use of the brake system). As a consequence, a lot of moisture is injected into the air system. See chassis manufacturer recommendations for air dryer maintenance schedule;
4. Twice a year lubricate the air actuators found on the main control valve with light oil (low temperature). See section 3.6 "Packer air system troubleshooting".

NOTE: FOR VEHICLES EQUIPPED WITH AN ALCOHOL EVAPORATOR, PLEASE REFER TO THE CHASSIS MANUFACTURER DEALER FOR PROPER MAINTENANCE.

1.21 SURFACE FINISHING AND PAINTING

Type of surface finishing recommended:

PAINTING PROCEDURE

- **SURFACE PREPARATION: Sandblasting.**
- **PRIMARY COAT: Anticorrosive epoxy primer.**
- **FINISHING COAT: Two (2) coats industrial type paint (or equivalent).**

Expert 2000™ PREVENTIVE MAINTENANCE CHART						
COMPONENT/SYSTEM	**DAILY**	**WEEKLY**	**MONTHLY**	**YEARLY**	**VERIFICATION**	**SECTION**
Hydraulic system	✓				– Check oil level in tank and refill if necessary.	1.14.5
	✓				– Check if the ball valve is open on main tank.	1.9
	✓				– Check on ground for overnight leaks.	
		✓			– Check cylinders, pump, control valve and system for leaks. Repair or replace if required.	1.14
				TWICE A YEAR	– Replace hydraulic filter.*	1.14.7
				✓	– Drain, flush, clean and refill strainer.	1.14.8
			✓		– Check pressure.	1.15 & 1.16
Clean the hopper area	✓				– Clean traps on each side.	1.11
	✓				– Tilt down the floating panel and clean dirt under or behind the packer.	1.11
Visual inspection of the following components:	✓				– Rollers, hydraulic cylinders and cylinder pins, hoses, pipes and connections, wear of floor and side of hopper.	1.11
Body and chassis			✓		– Check for corrosion.	
	✓				– Keep the contact surfaces clean, between the body and chassis.	1.10

* Replace return filter after the first 50 hours of operation

EXPERT 2000™ PREVENTIVE MAINTENANCE CHART						
COMPONENT/SYSTEM	**DAILY**	**WEEKLY**	**MONTHLY**	**YEARLY**	**VERIFICATION**	**SECTION**
Limit switches		✓			– Proper adjustment of the limit switches is imperative.	1.12.2
	✓				– Check and clean area around switches	
Lubrication	✓				– Lubricate the packer and its accessories.	
					– See lubrication chart on side of the truck	
Cart tipper	✓				– Grease and inspect all pivots.	
			✓		– Check pressure.	
Steering wheel gearbox				✓	– Add light grease if required.	
Wiring system				✓	– Check for damaged harnesses and/or bad connections.	
Operator's control	✓				– Check for proper operation.	
Air tanks	✓				– Drain.	1.20
Air system		✓			– Check for leaks.	1.20
Safety systems		✓			– Check for proper operation (tailgate alarm and special devices).	1.6 1.7

NOTES